



US 20140194260A1

(19) **United States**

(12) **Patent Application Publication**
Campanaro et al.

(10) **Pub. No.: US 2014/0194260 A1**

(43) **Pub. Date: Jul. 10, 2014**

(54) **METHOD OF USING AN EXERCISE DEVICE HAVING AN ADJUSTABLE INCLINE**

Publication Classification

(71) Applicant: **Total Gym Global Corporation**, San Diego, CA (US)

(51) **Int. Cl.**
A63B 21/068 (2006.01)

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(52) **U.S. Cl.**
CPC *A63B 21/068* (2013.01)
USPC **482/131**

(73) Assignee: **Total Gym Global Corporation**, San Diego, CA (US)

(57) **ABSTRACT**

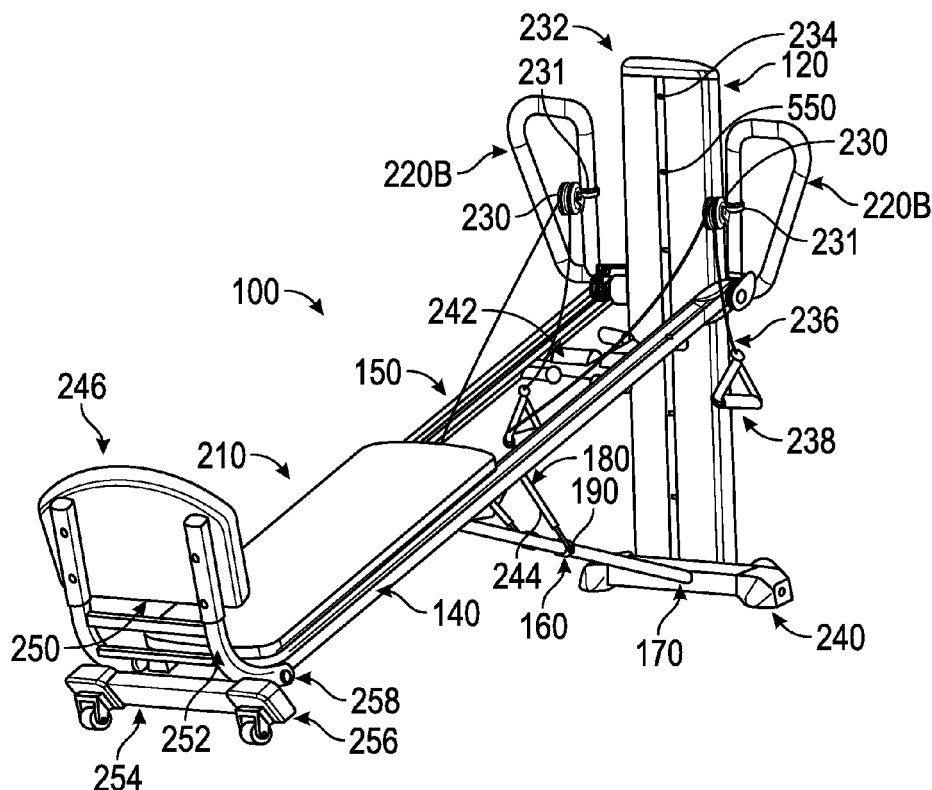
An exercise device includes a vertical support member or tower; an adjustable incline having a first end and a second end, the first end of the adjustable incline adjustably supported by, and vertically movable with respect to, the vertical support member for adjusting the incline of the adjustable incline; a user support platform movably attached to the adjustable incline; first and second pulleys coupled to the adjustable incline; one or more cables extendable through first and second pulleys and coupled to the user support platform for movement of the support platform along the adjustable incline through cable movement; and a non-motorized lift assist mechanism coupled to the adjustable incline and configured to impart a force on the adjustable incline to assist a user in adjusting the incline of the adjustable incline. A selected sequence of exercises is performed by a user in two or more different exercise positions engaging the adjustable incline.

(21) Appl. No.: **14/132,494**

(22) Filed: **Dec. 18, 2013**

Related U.S. Application Data

(60) Provisional application No. 61/748,973, filed on Jan. 4, 2013.



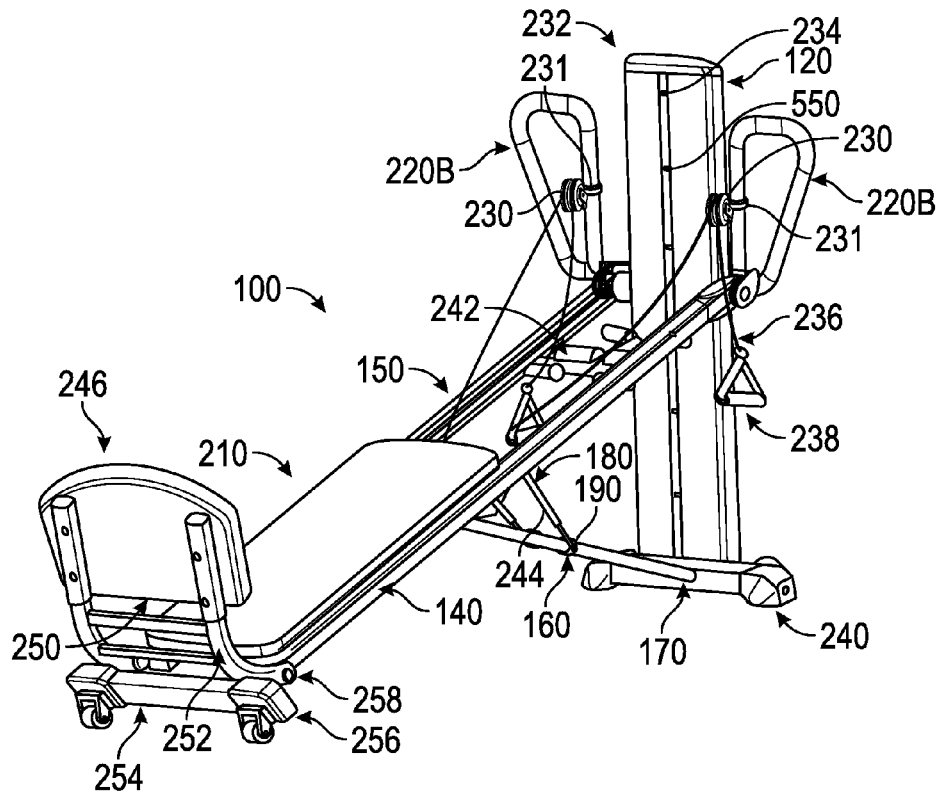


FIG. 1

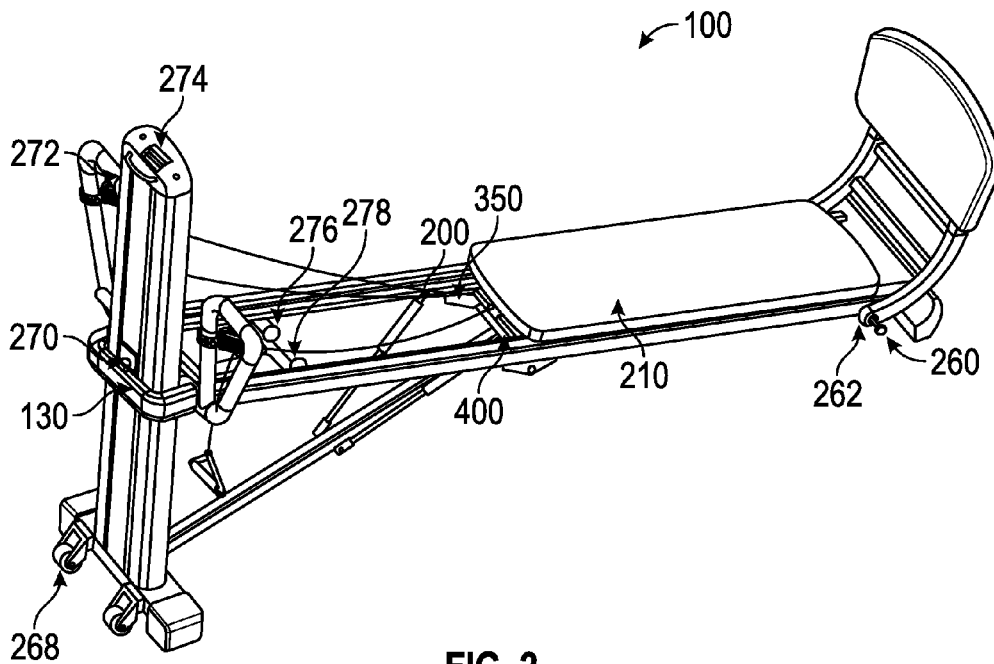


FIG. 2

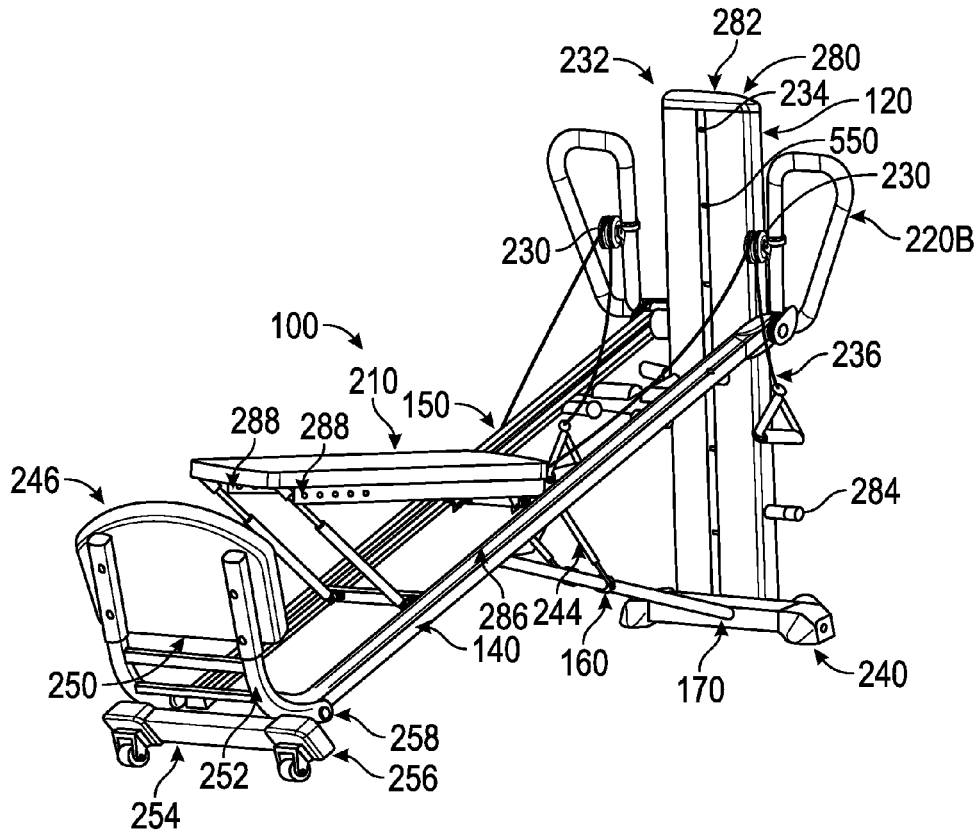


FIG. 3

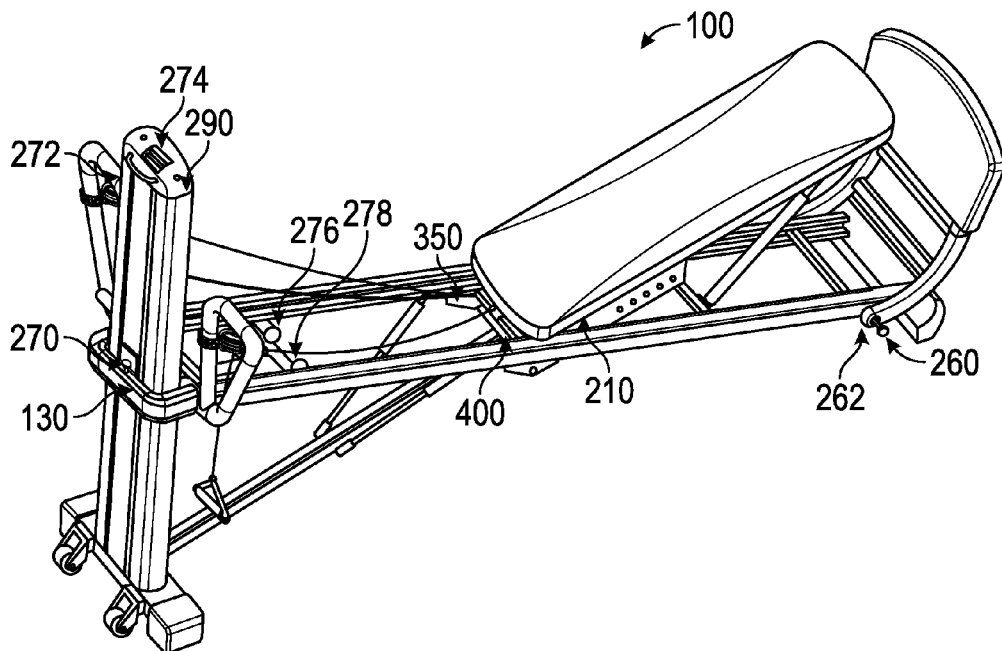


FIG. 4

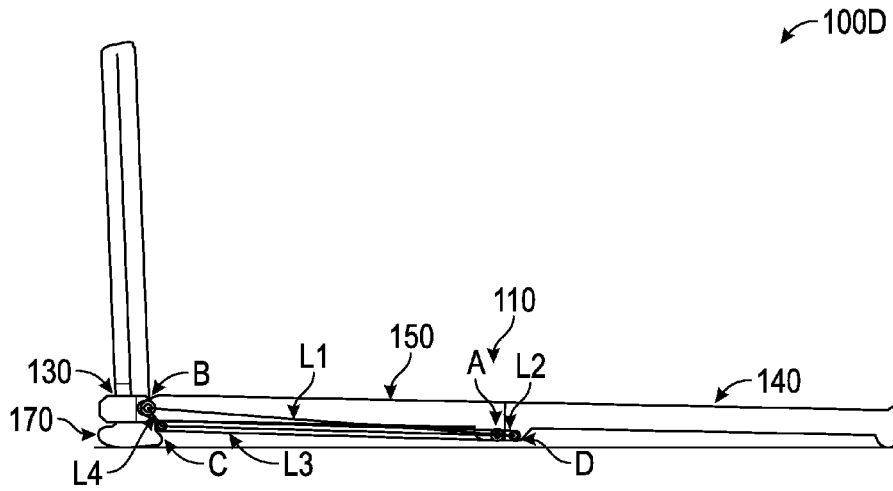


FIG. 5

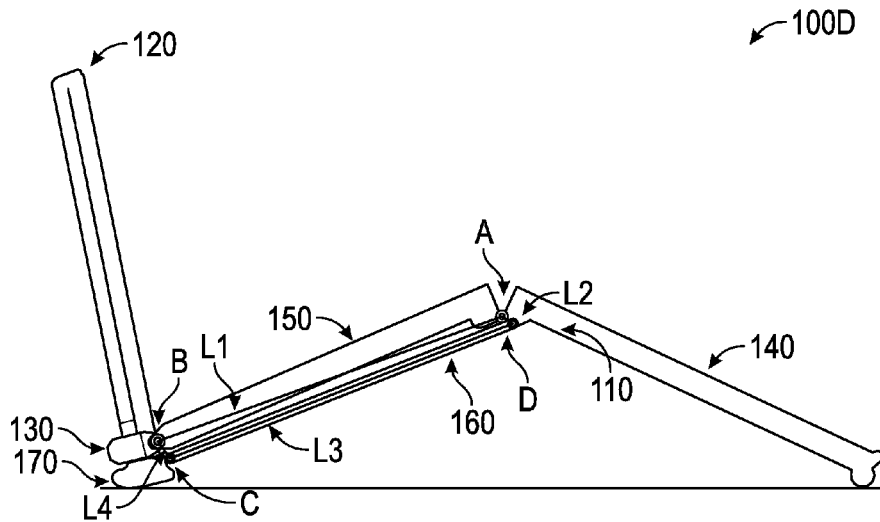


FIG. 6

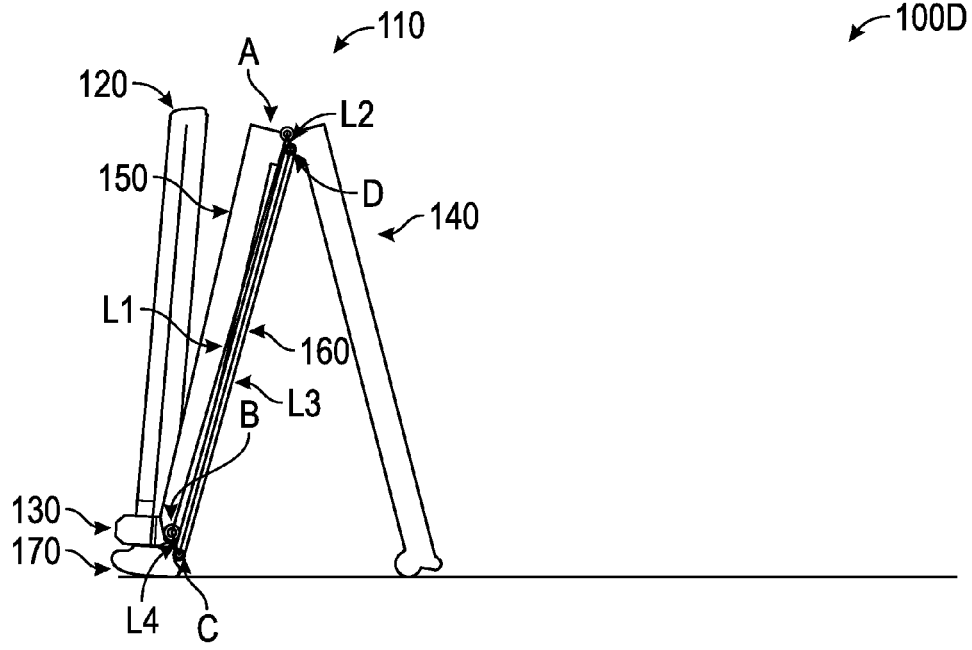


FIG. 7

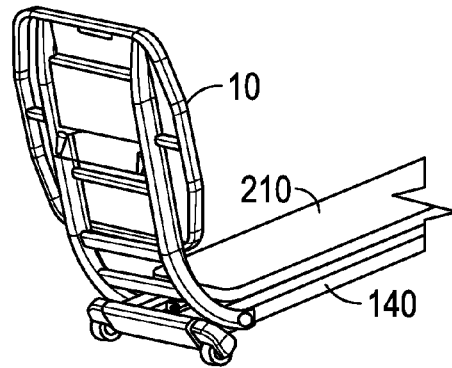


FIG. 8A

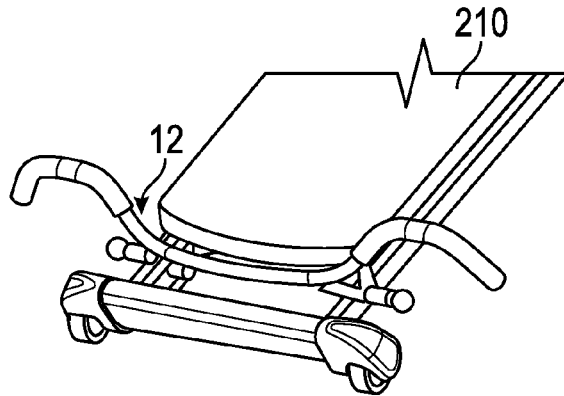


FIG. 8B

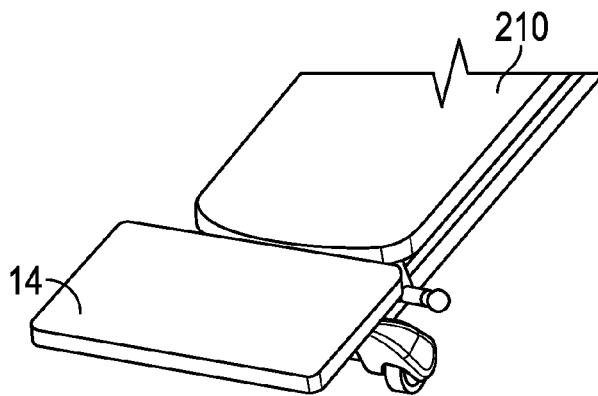


FIG. 8C

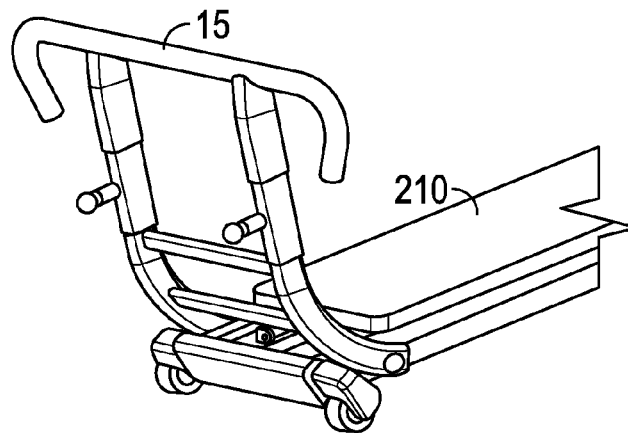


FIG. 8D

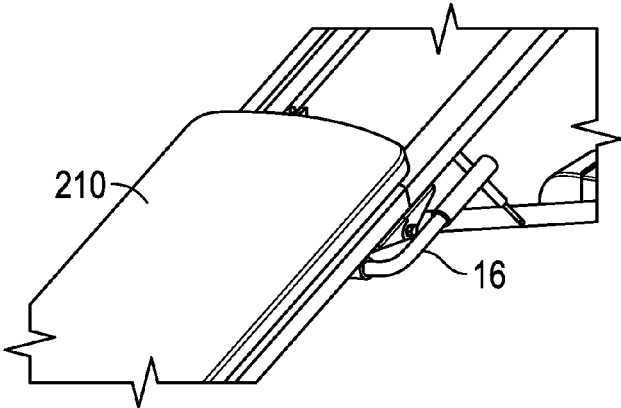


FIG. 8E

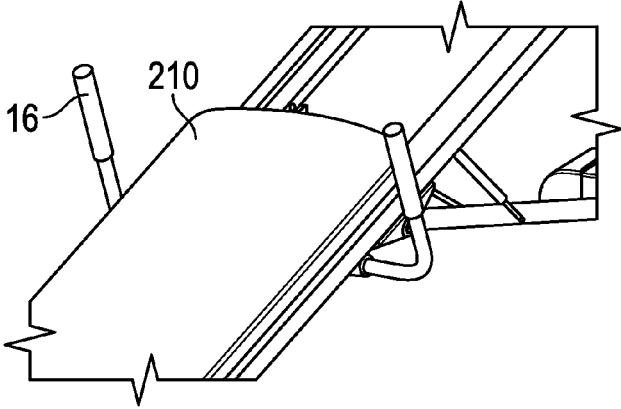


FIG. 8F

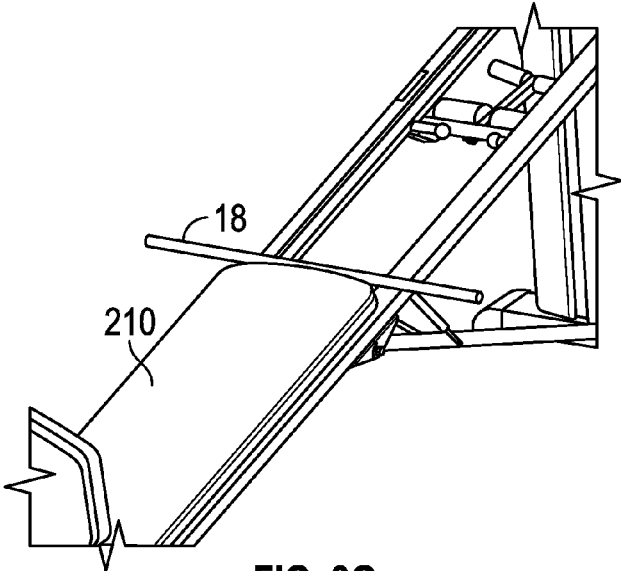


FIG. 8G

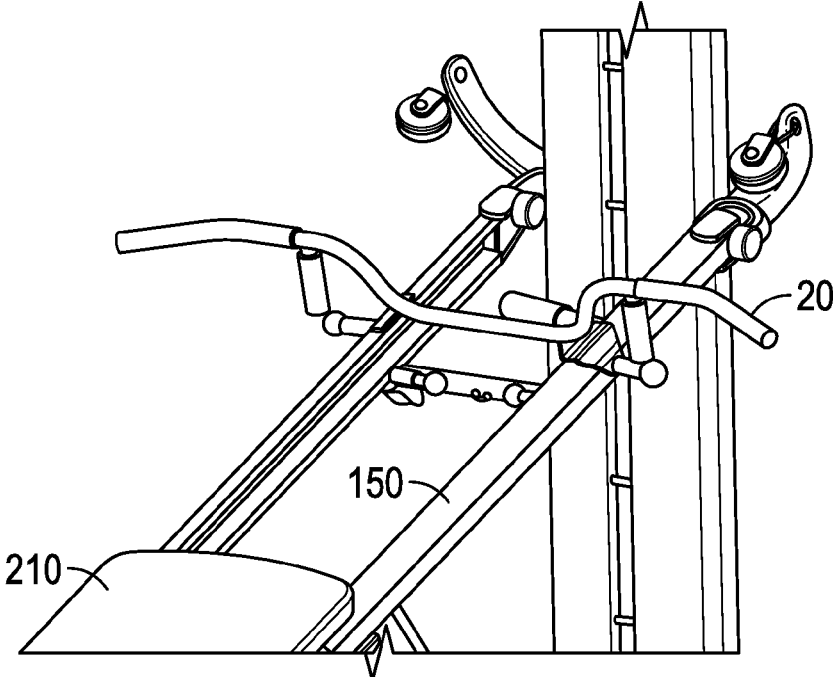


FIG. 8H

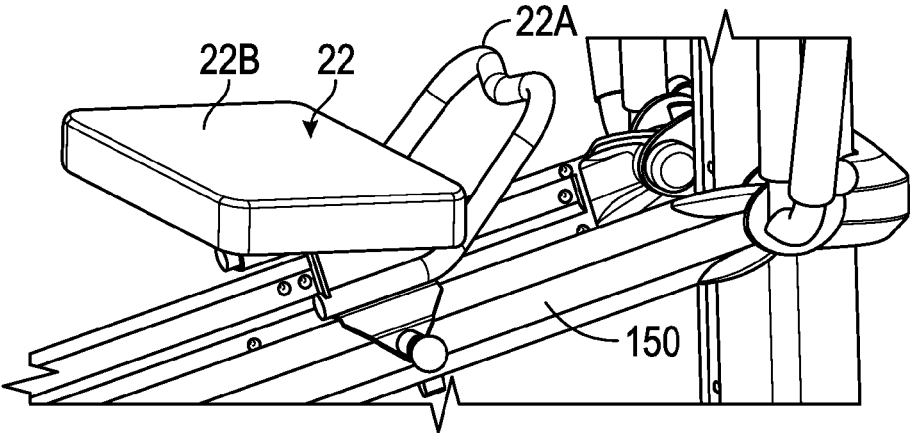


FIG. 8I

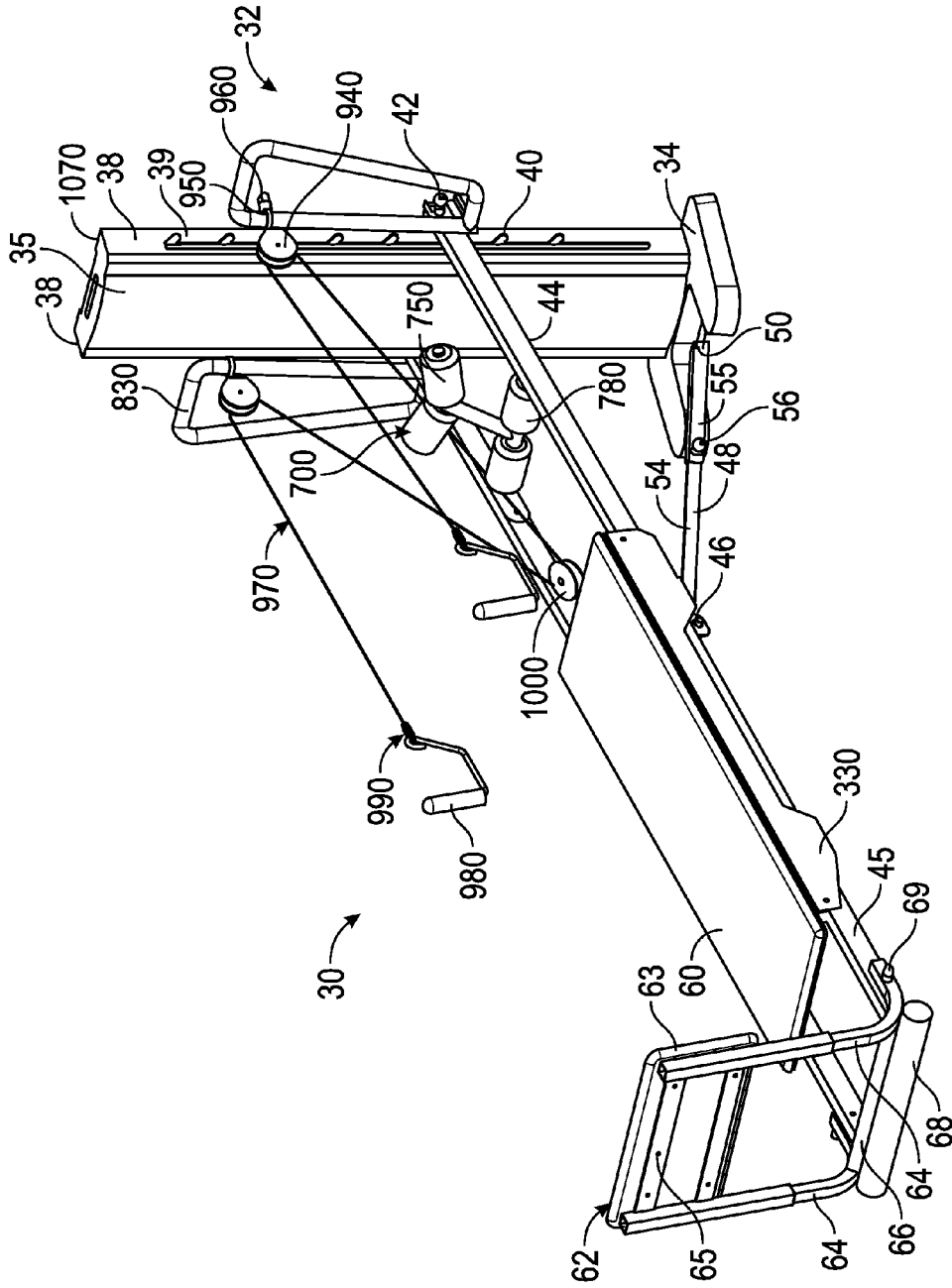


FIG. 9

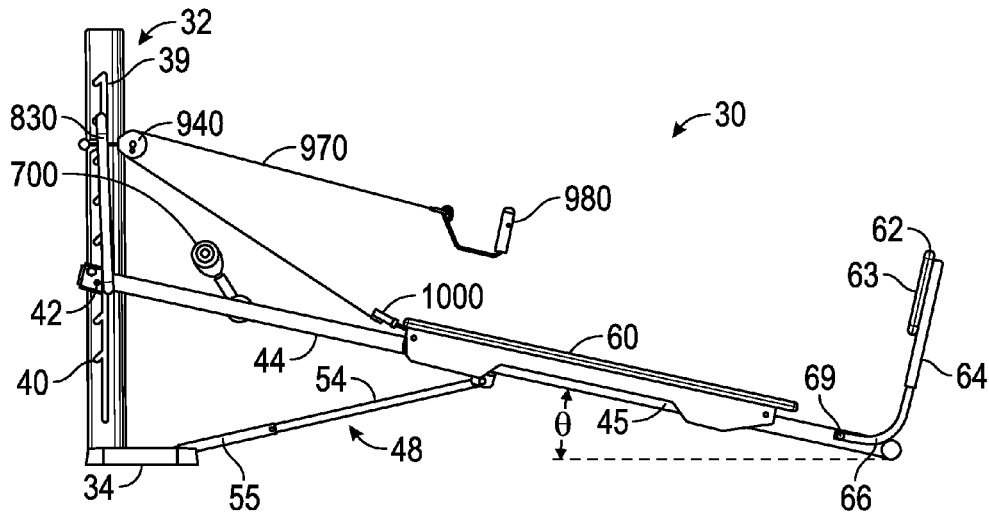


FIG. 10

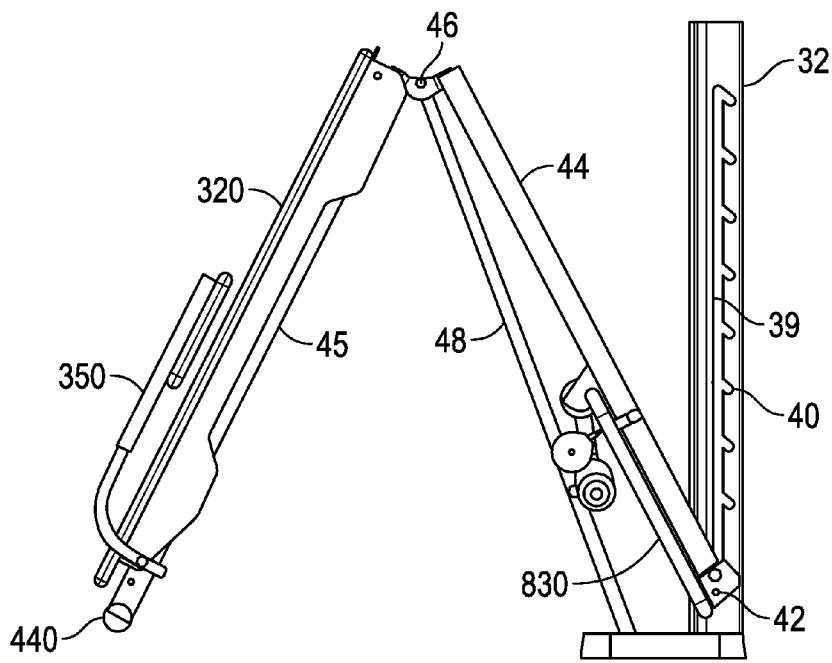


FIG. 11

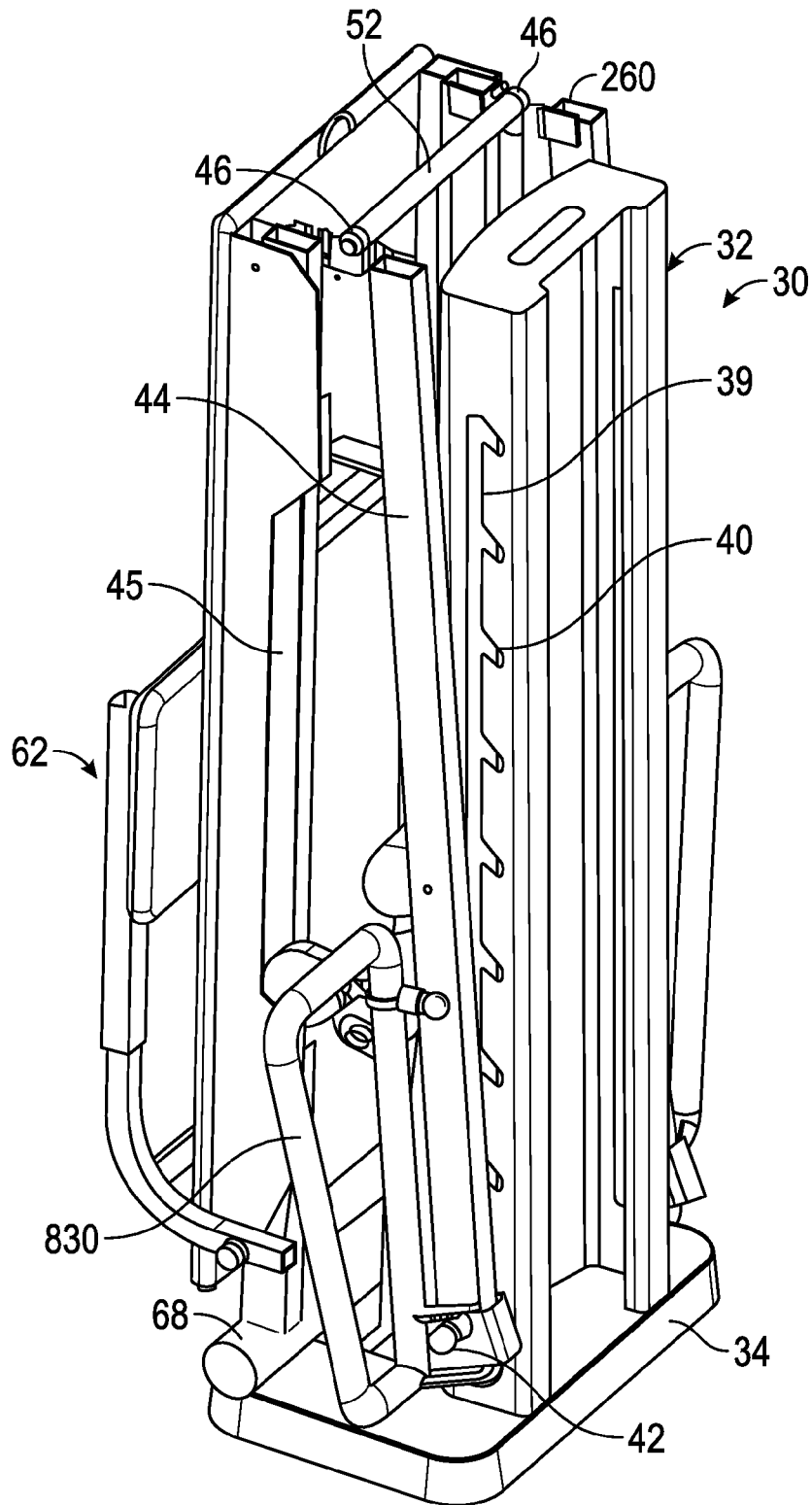


FIG. 12

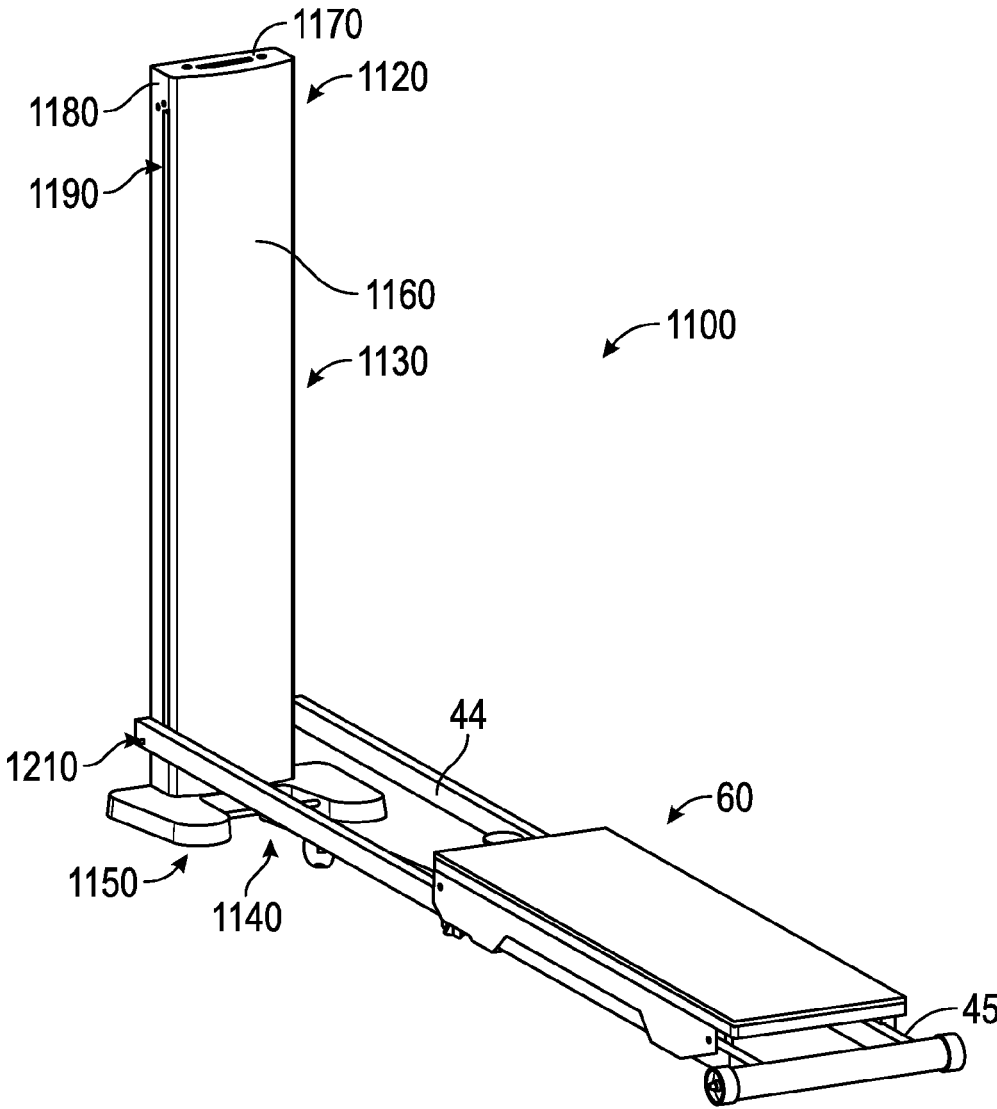


FIG. 13

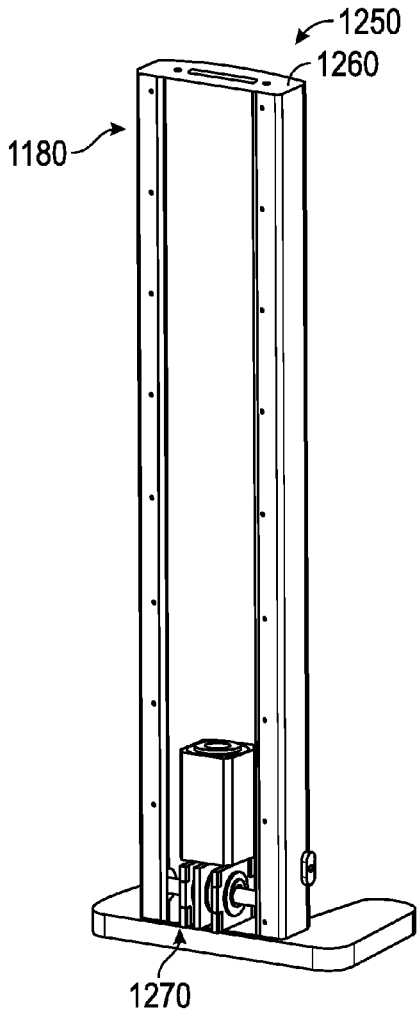


FIG. 14

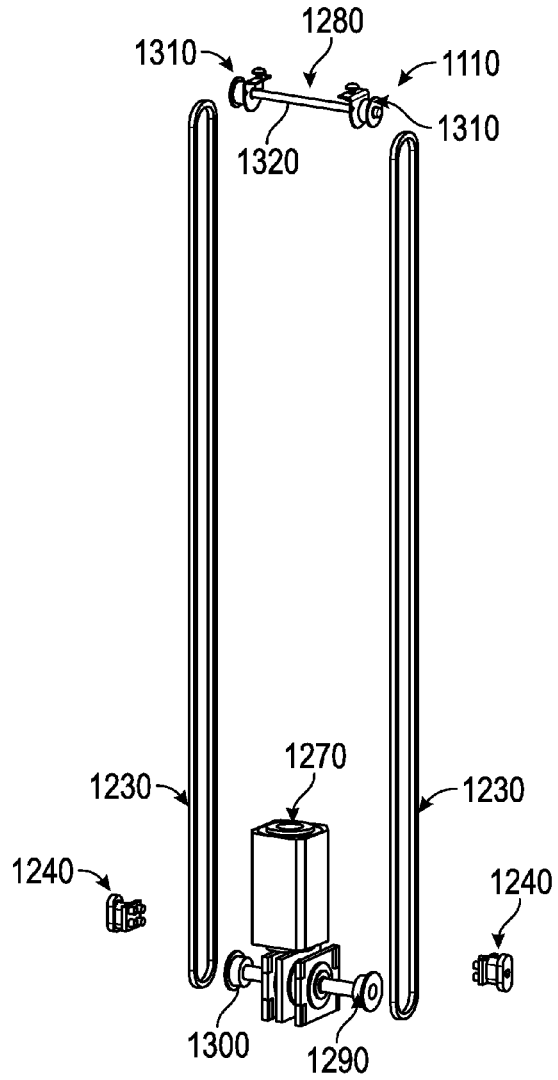


FIG. 15

Resistance in Pounds (lbs)

Degree of incline	Incline Level	Your Bodyweight + Weights Added (lbs)									
		100	130	150	180	200	250	300	400	500	650
35.5°	26	72	89	101	118	130	159	188	246	304	391
34.1°	25	69	86	97	114	125	153	181	237	293	377
33.1°	24	68	84	95	111	122	149	177	231	286	368
31.6°	23	65	81	91	107	117	143	170	222	275	353
30.2°	22	62	77	87	102	112	138	163	213	263	338
28.7°	21	59	74	83	98	108	132	156	204	252	324
27.3°	20	57	71	80	93	103	126	149	194	240	309
25.9°	19	54	67	76	89	98	120	142	185	229	295
24.6°	18	51	64	72	85	93	114	134	176	218	280
23.2°	17	49	61	68	80	88	108	127	167	206	265
21.9°	16	46	57	65	76	83	102	120	158	195	251
20.5°	15	43	54	61	71	78	96	113	149	184	236
19.2°	14	41	51	57	67	74	90	106	139	172	222
17.9°	13	38	47	53	63	69	84	99	130	161	207
16.6°	12	35	44	50	58	64	78	92	121	150	192
15.3°	11	33	41	46	54	59	72	85	112	138	178
14.0°	10	30	37	42	49	54	66	78	103	127	163
12.8°	9	27	34	38	45	49	60	71	94	116	149
11.5°	8	25	31	35	41	45	54	64	84	104	134
10.2°	7	22	27	31	36	40	49	57	75	93	120
9.0°	6	19	24	27	32	35	43	50	66	82	105
7.7°	5	17	21	23	27	30	37	43	57	70	90
6.5°	4	14	17	20	23	25	31	37	48	59	76
5.2°	3	11	14	16	19	20	25	30	39	48	61
4.0°	2	9	11	12	14	16	19	23	30	37	47
2.8°	1	6	7	8	10	11	13	16	20	25	33
1.3°	F	3	3	4	5	5	6	7	9	12	15

Weight of Standard Glideboard: 24 lbs

Resistance in Pounds (lbs)

FIG. 16

Resistance as % of Bodyweight (lbs)

Degree of incline	Incline Level	Your Bodyweight + Weights Added (lbs)									
		100	130	150	180	200	250	300	400	500	650
35.5°	26	72	69	67	66	65	63	63	61	61	60
34.1°	25	69	66	65	63	63	61	60	59	59	58
33.1°	24	68	65	63	62	61	60	59	58	57	57
31.6°	23	65	62	61	59	59	57	57	56	55	54
30.2°	22	62	59	58	57	56	55	54	53	53	52
28.7°	21	59	57	56	54	54	53	52	51	50	50
27.3°	20	57	54	53	52	51	50	50	49	48	48
25.9°	19	54	52	51	49	49	48	47	46	46	45
24.6°	18	51	49	48	47	46	45	45	44	44	43
23.2°	17	49	47	46	45	44	43	42	42	41	41
21.9°	16	46	44	43	42	42	41	40	39	39	39
20.5°	15	43	41	41	40	39	38	38	37	37	36
19.2°	14	41	39	38	37	37	36	35	35	34	34
17.9°	13	38	36	36	35	34	34	33	33	32	32
16.6°	12	35	34	33	32	32	31	31	30	30	30
15.3°	11	33	31	31	30	30	29	28	28	28	27
14.0°	10	30	29	28	27	27	27	26	26	25	25
12.8°	9	27	26	26	25	25	24	24	23	23	23
11.5°	8	25	24	23	23	22	22	21	21	21	21
10.2°	7	22	21	21	20	20	19	19	19	19	18
9.0°	6	19	18	18	18	17	17	17	17	16	16
7.7°	5	17	16	16	15	15	15	14	14	14	14
6.5°	4	14	13	13	13	13	12	12	12	12	12
5.2°	3	11	11	11	10	10	10	10	10	10	9
4.0°	2	9	8	8	8	8	8	8	7	7	7
2.8°	1	6	6	6	5	5	5	5	5	5	5
1.3°	F	3	3	3	3	2	2	2	2	2	2

Resistance as % of Bodyweight (lbs)

FIG. 17

Resistance in Pounds (lbs)

Degree of incline	Incline Level	Your Bodyweight + Weights Added (lbs)									
		100	130	150	180	200	250	300	400	500	650
35.5°	26	79	96	108	125	137	166	195	253	311	398
34.1°	25	76	93	104	121	132	160	188	244	300	384
33.1°	24	74	90	101	118	129	156	183	238	292	374
31.6°	23	71	87	97	113	124	150	176	228	281	360
30.2°	22	68	83	93	108	118	144	169	219	269	345
28.7°	21	65	80	89	104	113	137	161	209	258	330
27.3°	20	62	76	85	99	108	131	154	200	246	315
25.9°	19	59	72	81	94	103	125	147	191	234	300
24.6°	18	56	69	77	90	98	119	139	181	223	285
23.2°	17	53	65	73	85	93	113	132	172	211	270
21.9°	16	51	62	69	80	88	106	125	162	199	255
20.5°	15	48	58	65	76	83	100	118	153	188	240
19.2°	14	45	54	61	71	78	94	110	143	176	226
17.9°	13	42	51	57	66	72	88	103	134	165	211
16.6°	12	39	47	53	62	67	82	96	124	153	196
15.3°	11	36	44	49	57	62	75	89	115	141	181
14.0°	10	33	40	45	52	57	69	81	106	130	166
12.8°	9	30	37	41	48	52	63	74	96	118	151
11.5°	8	27	33	37	43	47	57	67	87	107	136
10.2°	7	24	29	33	38	42	51	60	77	95	122
9.0°	6	21	26	29	34	37	45	52	68	84	107
7.7°	5	18	22	25	29	32	38	45	59	72	92
6.5°	4	15	19	21	24	27	32	38	49	60	77
5.2°	3	12	15	17	20	21	26	31	40	49	63
4.0°	2	9	12	13	15	16	20	23	30	37	48
2.8°	1	7	8	9	10	11	14	16	21	26	33
1.3°	F	3	4	4	5	5	6	7	10	12	15

Weight Of Adjustable Glideboard: 37 lbs

Resistance in Pounds (lbs)

FIG. 18

Resistance as % of Bodyweight (lbs)

Degree of incline	Incline Level	Your Bodyweight + Weights Added (lbs)									
		100	130	150	180	200	250	300	400	500	650
35.5°	26	79	74	72	70	68	66	65	63	62	61
34.1°	25	76	71	69	67	66	64	63	61	60	59
33.1°	24	74	70	68	65	64	62	61	59	58	58
31.6°	23	71	67	65	63	62	60	59	57	56	55
30.2°	22	68	64	62	60	59	57	56	55	54	53
28.7°	21	65	61	60	58	57	55	54	52	52	51
27.3°	20	62	58	57	55	54	52	51	50	49	48
25.9°	19	59	56	54	52	52	50	49	48	47	46
24.6°	18	56	53	51	50	49	47	46	45	45	44
23.2°	17	53	50	49	47	46	45	44	43	42	42
21.9°	16	51	47	46	45	44	43	42	41	40	39
20.5°	15	48	45	43	42	41	40	39	38	38	37
19.2°	14	45	42	41	39	39	38	37	36	35	35
17.9°	13	42	39	38	37	36	35	34	33	33	32
16.6°	12	39	36	35	34	34	32	32	31	31	30
15.3°	11	36	34	33	32	31	30	30	29	28	28
14.0°	10	33	31	30	29	29	27	27	26	26	26
12.8°	9	30	28	27	26	26	25	25	24	24	23
11.5°	8	27	25	25	24	23	22	22	22	21	21
10.2°	7	24	23	22	21	21	20	20	19	19	19
9.0°	6	21	20	19	19	18	17	17	17	17	16
7.7°	5	18	17	17	16	16	15	15	15	14	14
6.5°	4	15	14	14	14	13	13	13	12	12	12
5.2°	3	12	12	11	11	11	10	10	10	10	10
4.0°	2	9	9	9	8	8	8	8	8	7	7
2.8°	1	7	6	6	6	6	5	5	5	5	5
1.3°	F	3	3	3	3	3	2	2	2	2	2

Resistance as % of Bodyweight (lbs)

FIG. 19

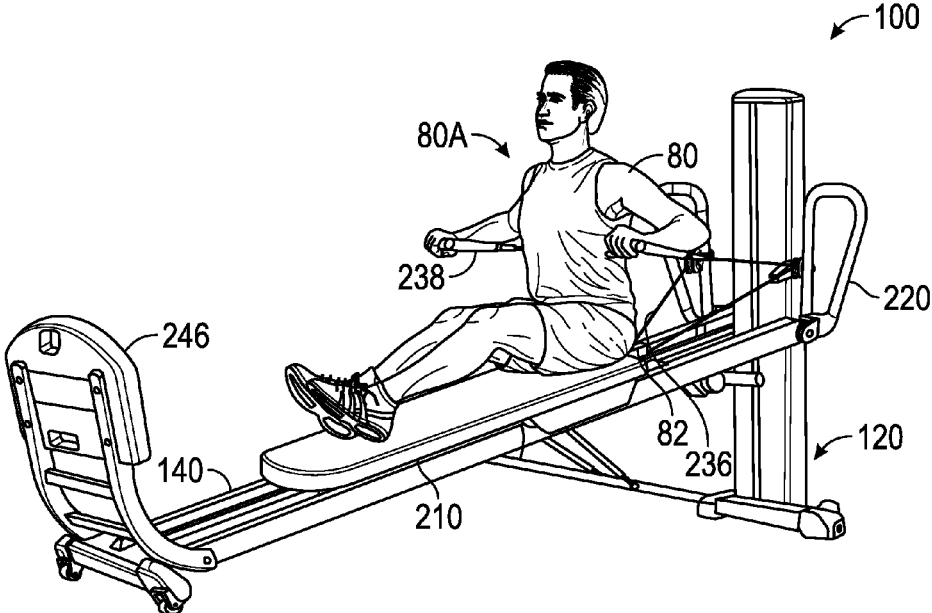


FIG. 20

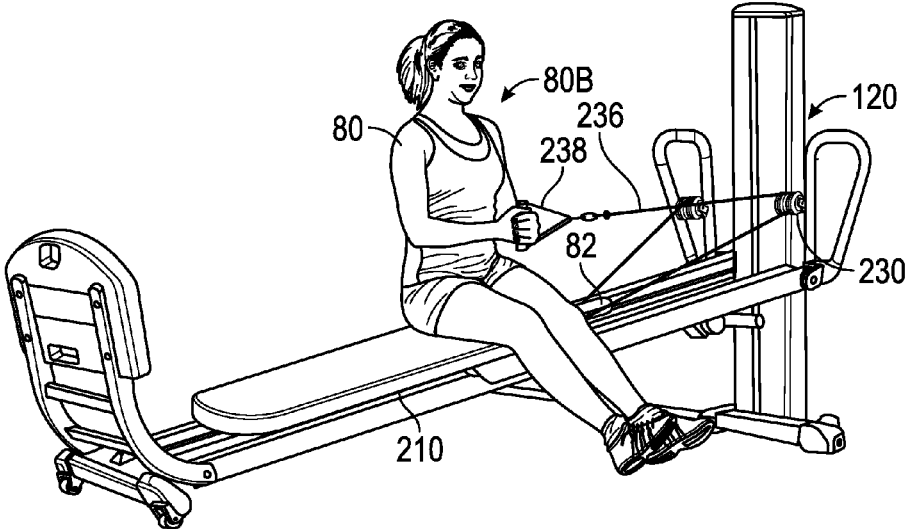


FIG. 21

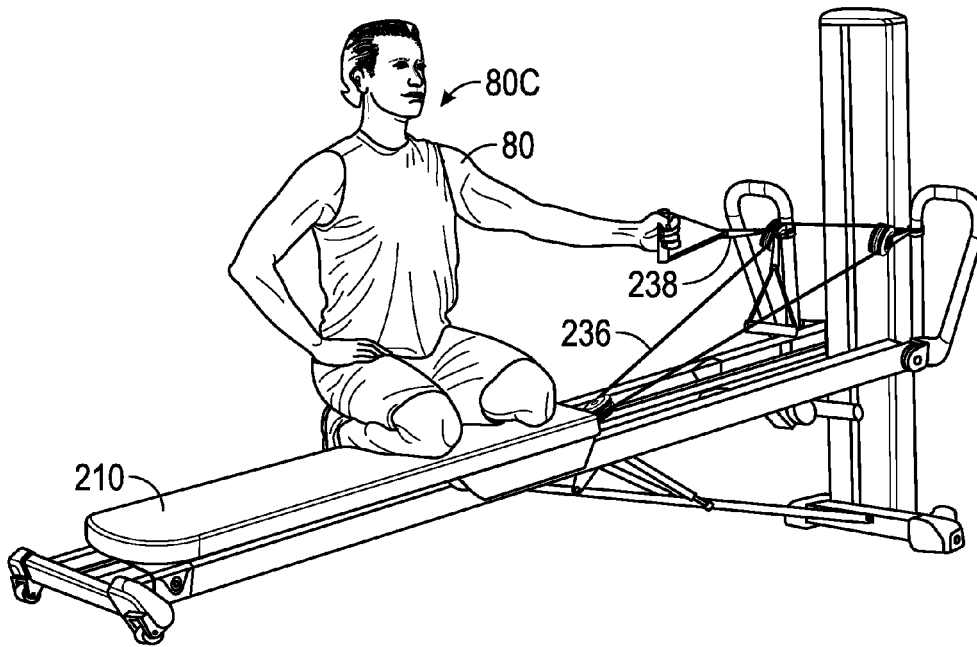


FIG. 22

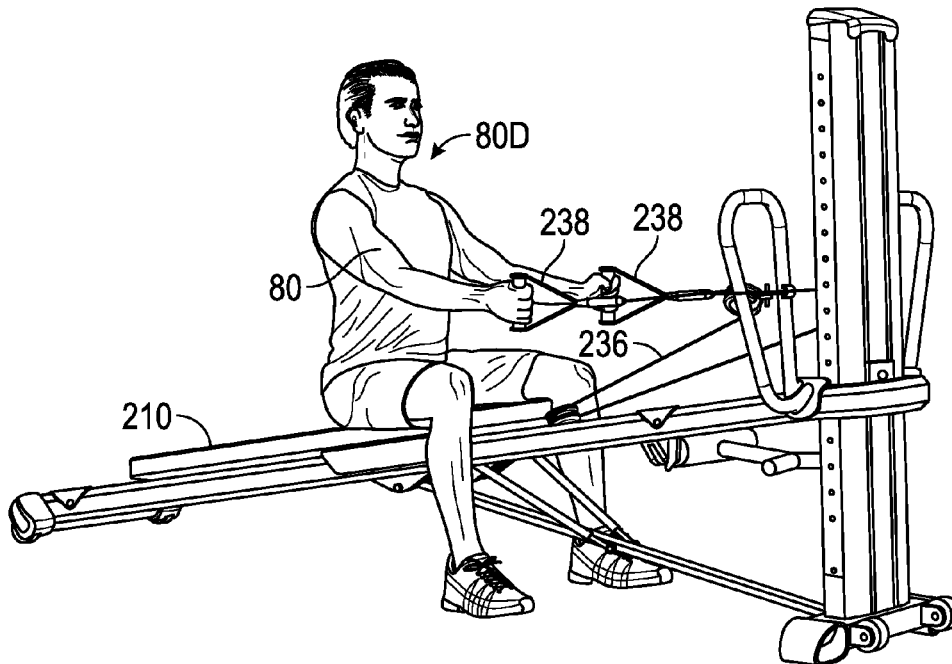


FIG. 23

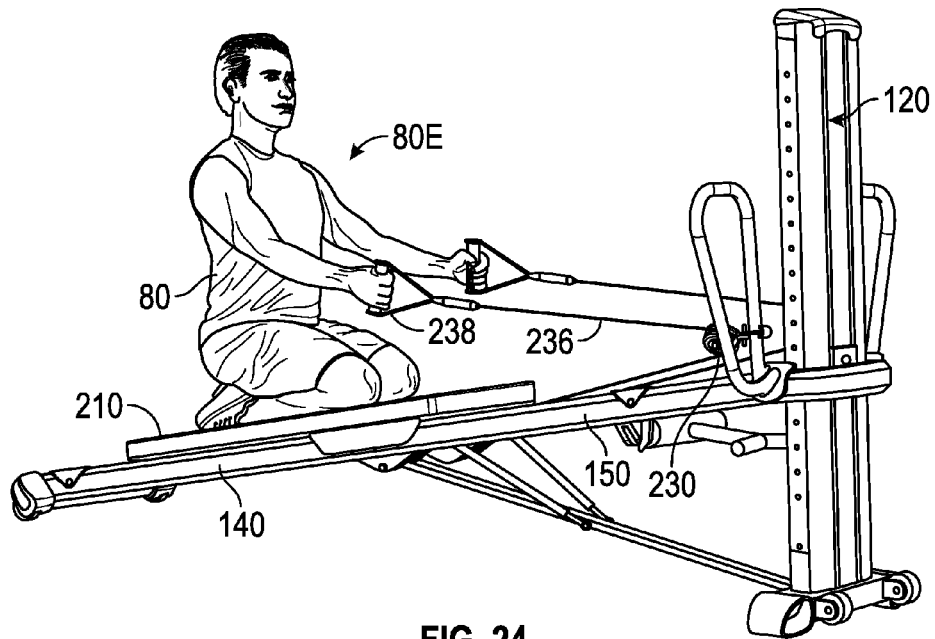


FIG. 24

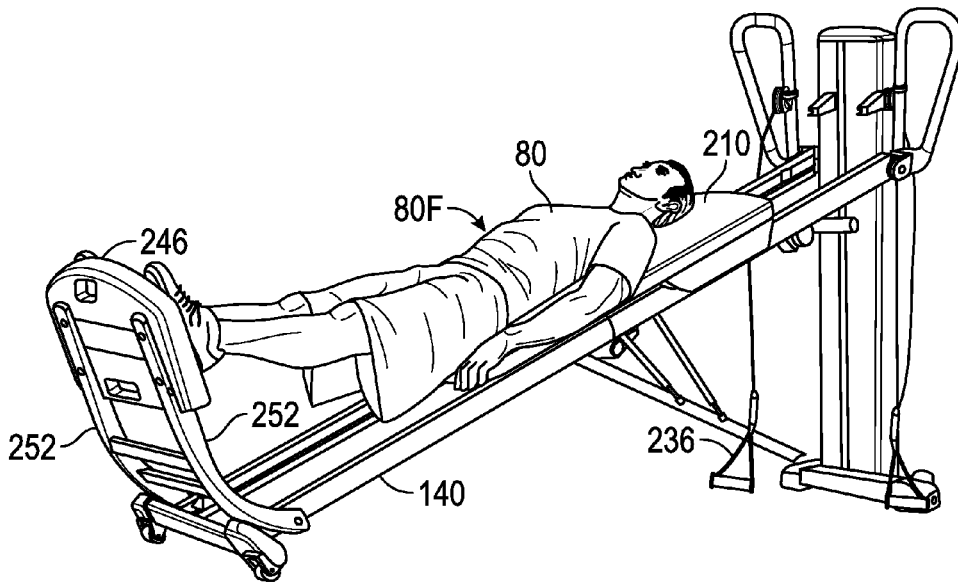


FIG. 25

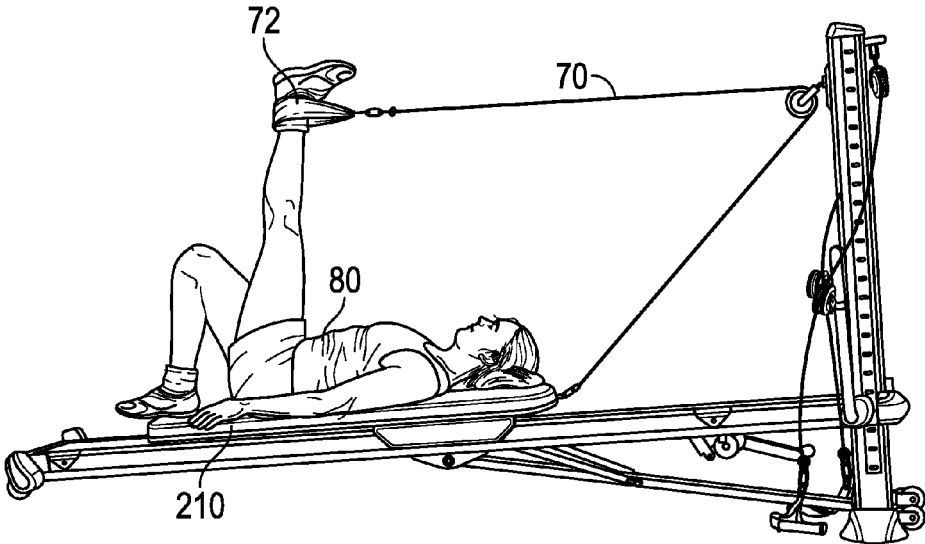


FIG. 25A

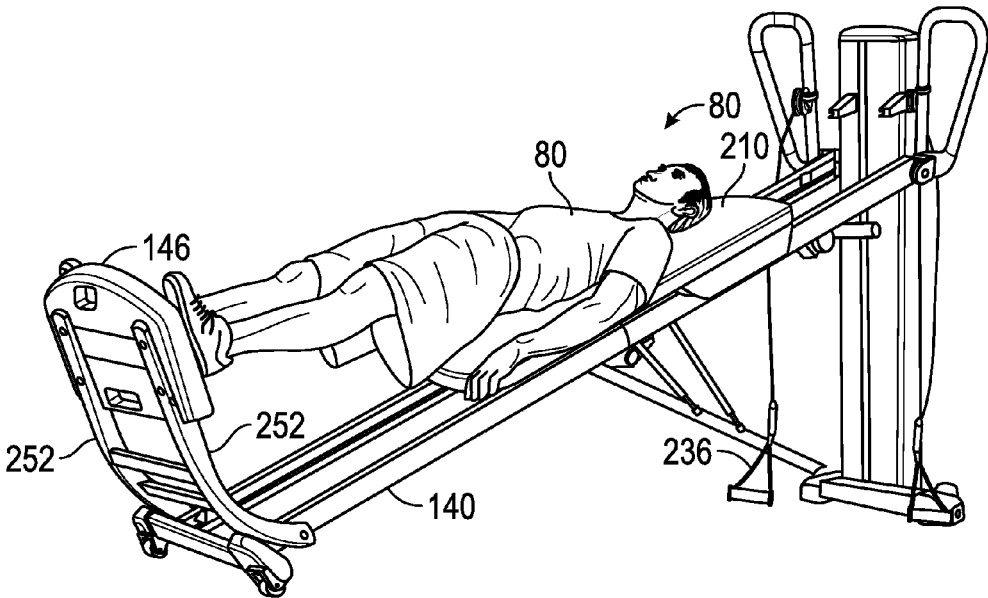


FIG. 25B

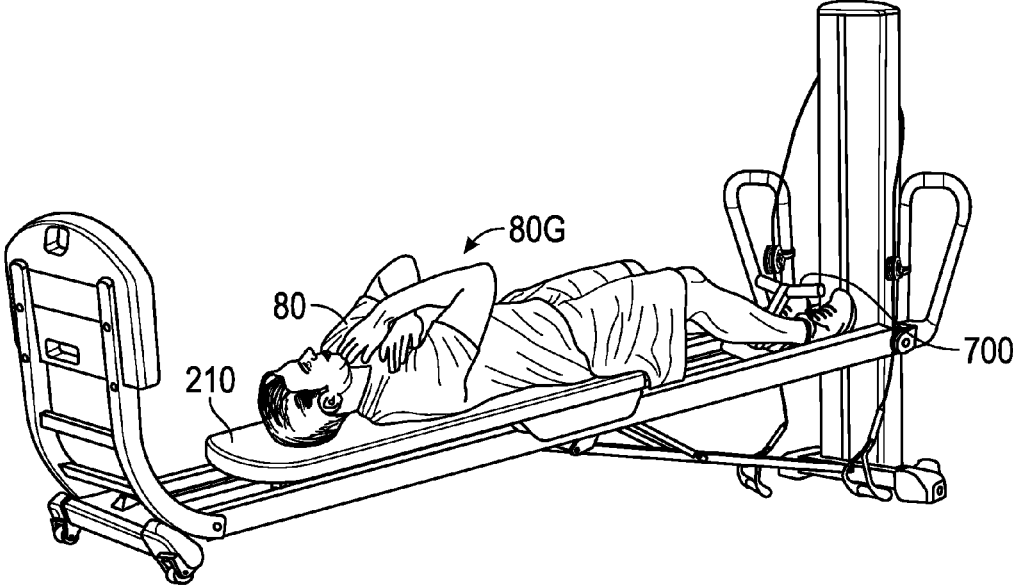


FIG. 26

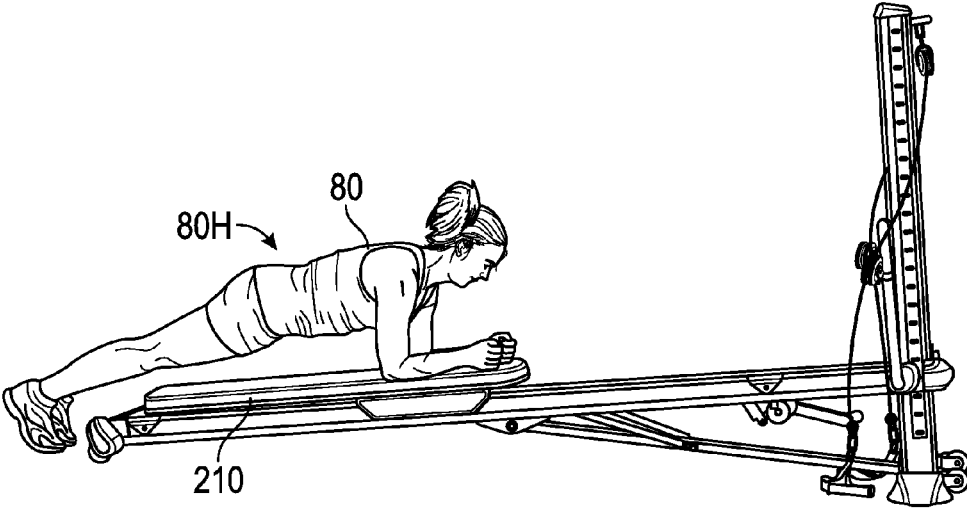


FIG. 27

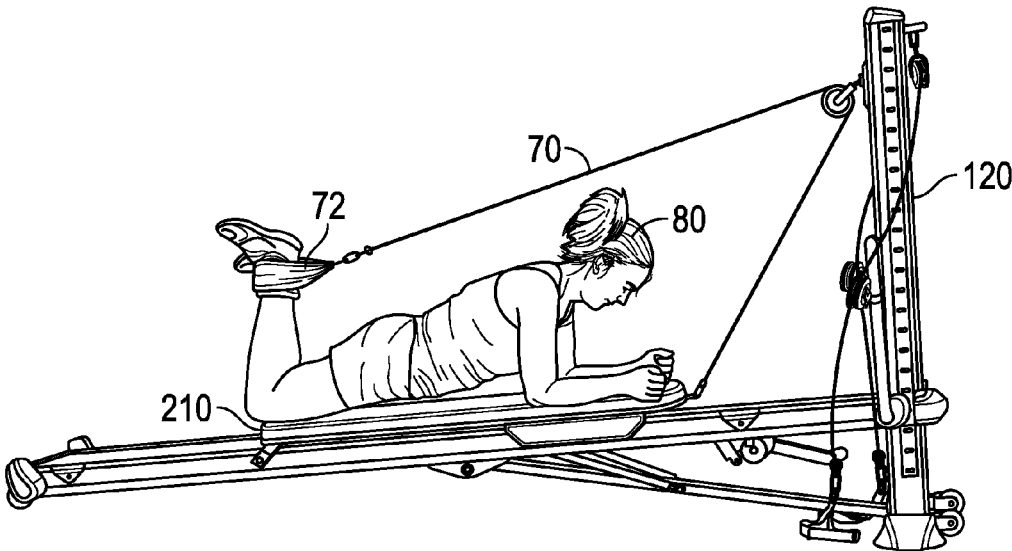


FIG. 27A

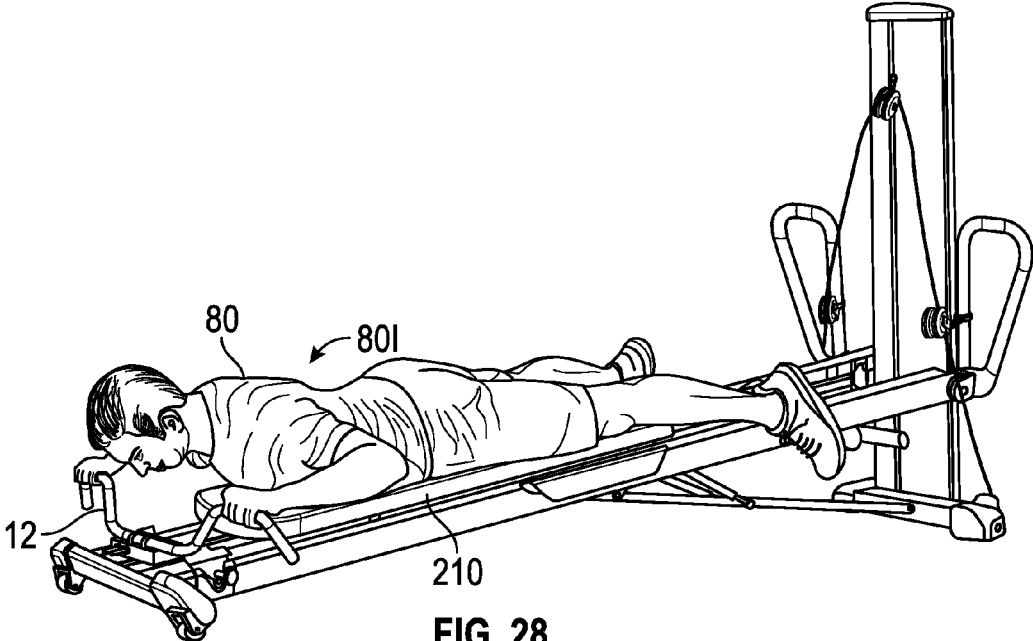


FIG. 28

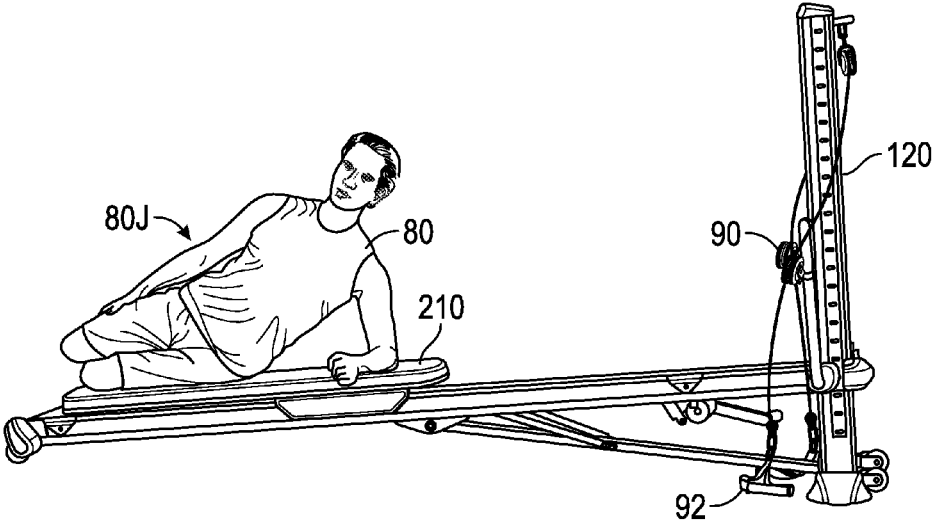


FIG. 29

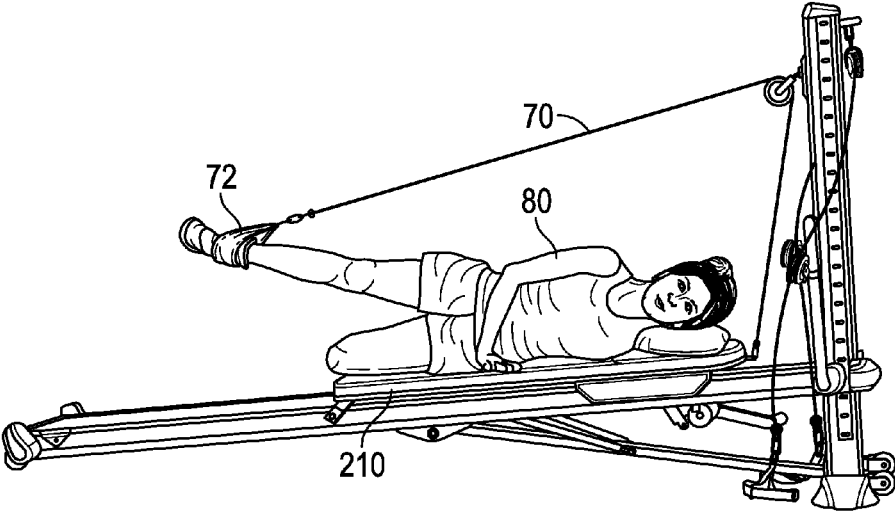


FIG. 29A

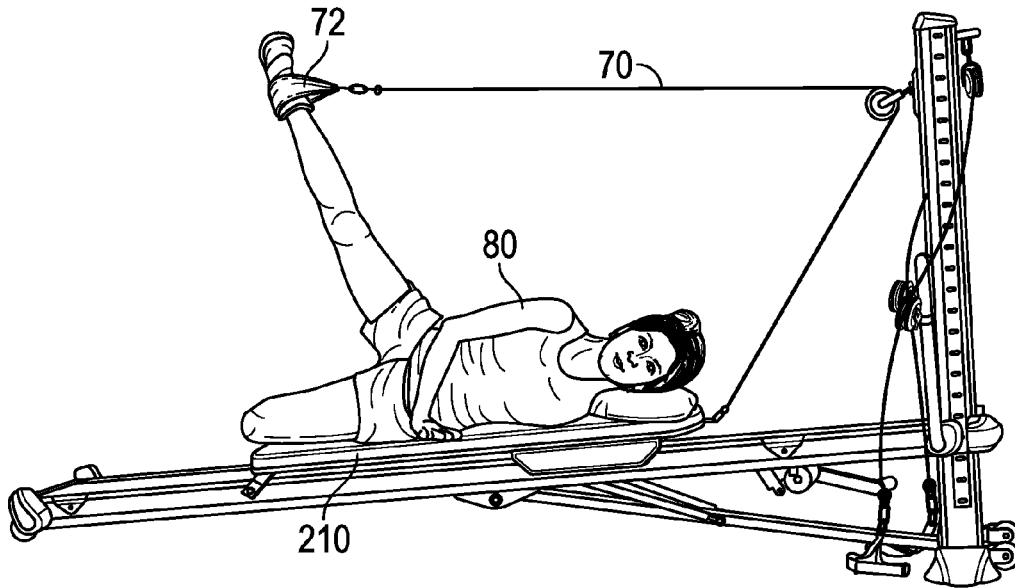


FIG. 29B

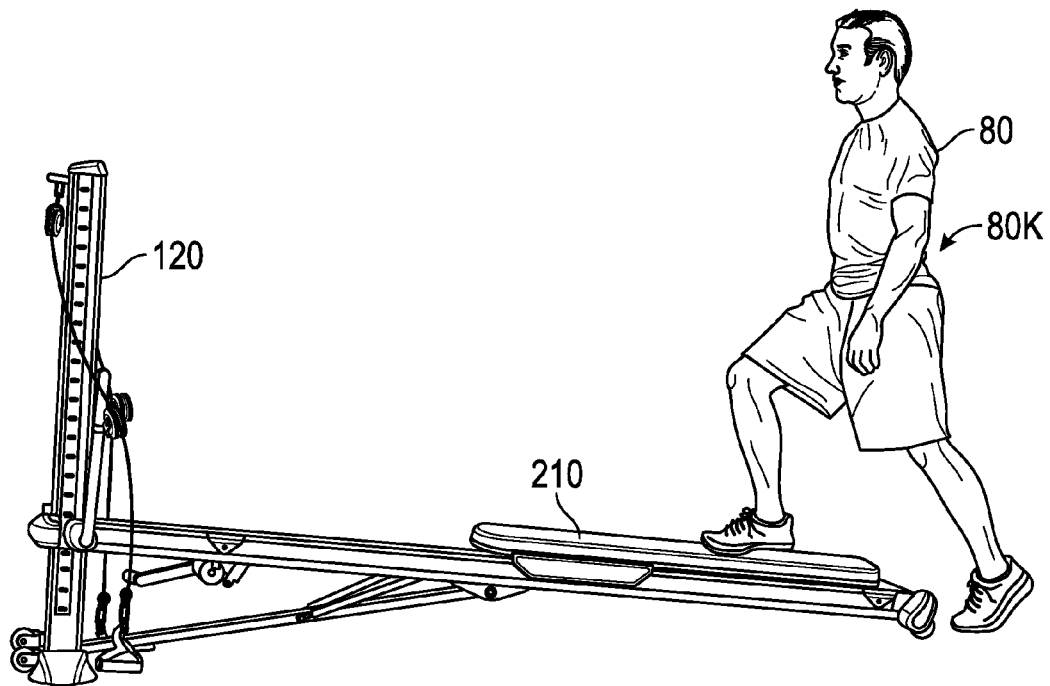


FIG. 30

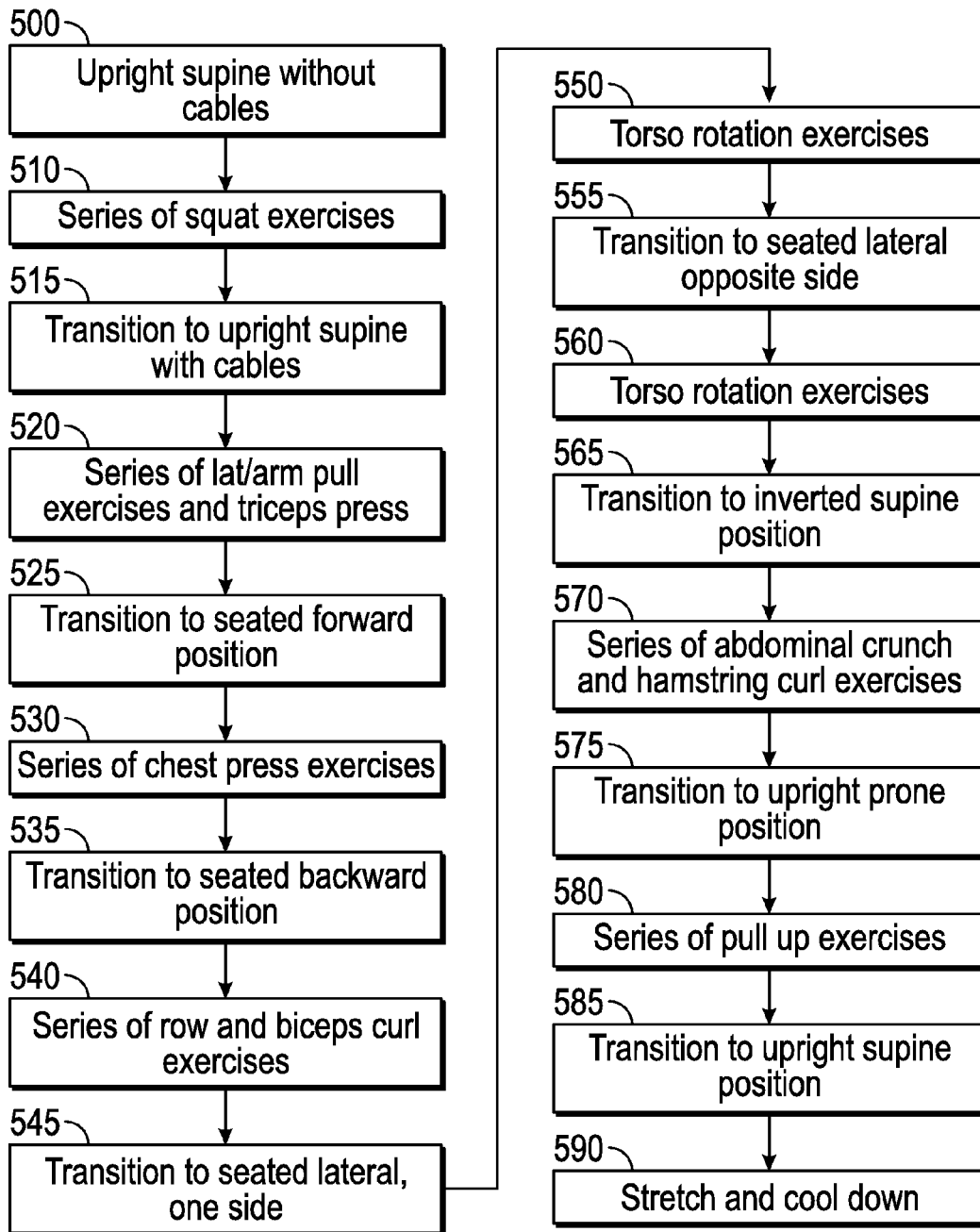


FIG. 31

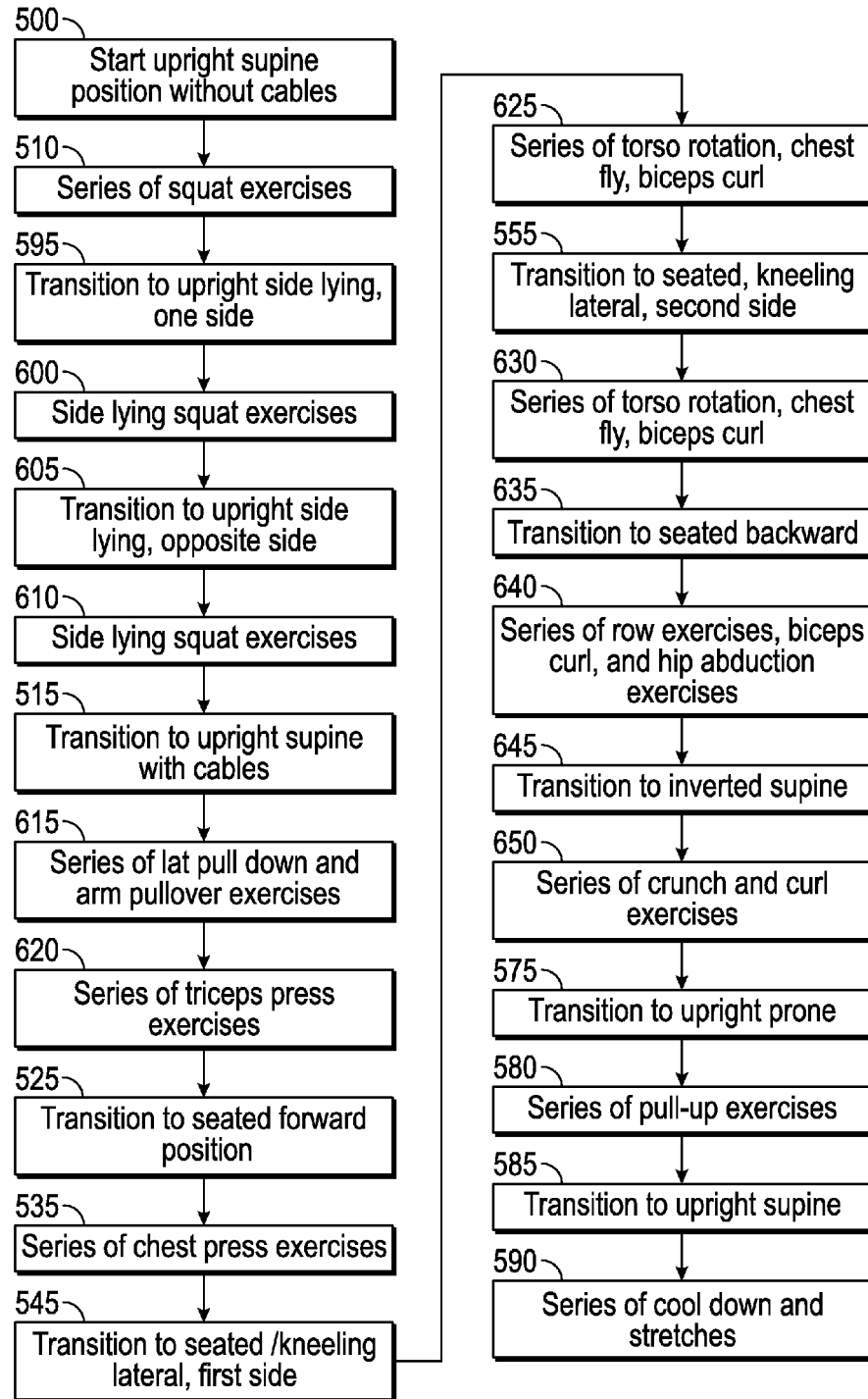


FIG. 32

Transition	Body Position	Exercise sequence	Cables
Start	Upright supine	Bilateral Squat, unilateral squat, toe out squat	Without cables
None	Upright supine	Lat pull down, arm pullover, arm pullover with crunch, triceps press.	With cables
Move to seated forward	Seated forward	Chest press, unilateral chest press, chest stretch.	With cables
Move to seated backward	Seated backward	Seated row, unilateral seated row, biceps curl, unilateral biceps curl.	With cables
Move to seated lateral, 1st side	Seated lateral	Torso rotation	With cables
Move to seated lateral, 2nd side	Seated lateral	Torso rotation	With cables
Move to inverted supine	Inverted Supine	Abdominal crunch, abdominal crunch with rotation, hamstring curl	With cables
Move to upright prone	Upright prone	Pull-up	With cables
Move to upright supine	Upright Supine	Stretching/Cool down	Without cables

FIG. 33

Transition	Body Position	Exercise Sequence	With or without cables
Start	Upright supine	Bilateral squat, unilateral squat, toe out squat, bilateral plyometric squat, unilateral plyometric squat	Without cables
Move to upright side lying, first side	Upright side lying	Side lying squat	Without cables
Move to upright side lying, second side	Upright side lying	Side lying squat	Without cables
Move to upright supine	Upright supine	Toe out squat in bridge	Without cables
No position change	Upright supine	Lat pull down, arm pullover, arm pullover with crunch and multiple leg variations, triceps press, alternating triceps press	With cables
Move to seated forward	Seated forward	Chest press, chest press with center, low, center, high variations, chest press.	With cables
Transition to seated/kneeling lateral, first side	Seated or kneeling lateral	Torso rotation, torso rotation with variations, chest fly, biceps curl	With cables
Transition to seated/kneeling lateral, second side	Seated or kneeling lateral	Torso rotation, torso rotation with variations, chest fly, biceps curl	With cables
Move to seated backward	seated backward	Seated row, unilateral seated row, high elbow row, biceps curl, alternating biceps curl, biceps curl, hip abduction.	With cables
Move to inverted supine	Inverted supine	Crunch without and with rotation, hamstring curl	With cables
Move to upright prone	Upright prone	Pull up	With cables
Move to inverted supine	Upright supine	Stretch, cool down	

FIG. 34

Transition	Body Position	Exercise sequence	With or without cables
Start	Upright supine	Bilateral squat, unilateral squat, bridge squat	Without cables
No position change	Upright supine	Lat pull down, arm pullover, arm pullover with crunch, triceps press.	With cables
Move to seated forward	Seated forward	Chest press.	With cables
Move to seated backward	seated backward	Seated row, unilateral seated row	wWith cables
Move to seated lateral (first side)	Seated lateral	Seated torso rotation (first side)	With cables
Move to seated backward	Seated backward	Seated biceps curl, hip abduction	With cables
Move to seated lateral (second side)	Seated lateral	Seated torso rotation (second side)	With cables
Move to inverted supine	Inverted supine	Hamstring curl, bent leg incline crunch	With cables
Move to upright prone	Upright prone	Pull up	With cables
		Stretch, cool down	

FIG. 35

Transition	Body Position	Exercise sequence	Cables
Start	Base stand	Lunges facing tower, facing forward, facing lateral	Without cables
Move to kneeling lateral, first side	Kneeling lateral	Torso rotation	With cables
Move to kneeling lateral, second side	Kneeling lateral	Torso rotation	With cables
Move to kneeling backward	Kneeling backward	Kneeling high elbow row	With cables
Move to kneeling inverted	Kneeling inverted	Inverted truck, single leg inverted truck	With cables
Move to kneeling lateral	Kneeling lateral	Horizontal shoulder abduction, torso rotation with angle variations	With cables
Move to seated forward	Seated forward	Static equilibrium chest press	With cables
Move to prone	Prone	Push up	With cables
Move to upright supine	Upright Supine	Bridge squat	With cables
Move to squatting	Squatting	Skiing	With cables
		Stretching/Cool down	Without cables

FIG. 36

Transition	Body position	Exercise sequence	Cables
Start	Upright supine	Bilateral squat, unilateral squat, bilateral heel raise, unilateral heel raise, toes out squat, plyometric skiing.	Without cables
Move to seated backward	Seated backward	Seated row, biceps curl, reverse fly, seated shoulder extension	With cables
		Cardio routine	
Move to upright prone	Upright prone	Pull-up	With cables
Move to inverted supine	Inverted supine	Hamsring curl, bent leg incline crunch	With cables
		Cardio routine	
Move to seated forward	Seated forward	Chest press, static chest press.	With cables
Move to seated lateral, first side	Seated lateral	Torso rotation	With cables
Move to seated lateral, second side	Seated lateral	Torso rotation	With cables
Move to seated lateral, first side	Seated lateral	Horizontal shoulder abduction	With cables
Move to seated lateral, second side	Seated lateral	Horizontal shoulder abduction	With cables
		Cardio routine	
Move to upright supine	Upright Supine	Pullover crunch, triceps press down, cross body pullover crunch	With cables
	Upright Supine	Stretching/Cool down	Without cables

FIG. 37

METHOD OF USING AN EXERCISE DEVICE HAVING AN ADJUSTABLE INCLINE

FIELD OF THE INVENTION

[0001] The present invention relates, in general, to an exercise device and a method of using the same. More particularly, the present invention relates to an exercise device and method wherein the exerciser exerts muscle force against an adjustable portion of the exerciser's own body weight, and other methods described herein.

BACKGROUND OF THE INVENTION

[0002] Personal body weight training and group body weight training classes are becoming increasingly more popular for improving health and fitness.

[0003] Exercise devices are known in which a user, positioned on a support platform, propels that support platform up an inclined ramp. One way by which the platform may be propelled is by pulling a cable connected to the support platform through a variety of pulleys positioned on the exercise device. By changing positions on the platform and by changing the method by which the platform is propelled, a user can exercise multiple muscle groups. Another way of using the platform is to detach the platform from the cables with the exerciser using body strength to push the platform up the incline while performing same types of exercise.

[0004] While early versions of these devices did not allow for easy storage, later designs were proposed that allowed for some type of disassembly in the design. Even the later designs do not, however, provide complete foldability of the exercise unit. The designs include some separate elements which must be disengaged to allow for foldability of the device. Thus, these designs cannot be folded and stored as a unit. Moreover, the designs are not easily converted from the folded stored state to an unfolded state for use.

[0005] Another problem with early versions of these devices is that they did not allow for a wide variety of different types of muscle exercises, especially multiple muscle exercises for each specific muscle group.

[0006] In view of the foregoing, there is a need for an inclined ramp exercise device which is easily foldable to a size which allows for easy storage, is easily unfolded into a useable state, and which allows for exercising multiple muscle groups and multiple exercises for each muscle group.

[0007] There is also a need for multiple exercises, sequences of exercises, instruction, and education related to an inclined ramp exercise device.

SUMMARY OF THE INVENTION

[0008] An aspect of the invention involves an exercise system and method of using a collapsible exercise device to perform sequences of selected different exercises. The method includes providing an exercise device having a vertical member and an adjustable incline having a first end and a second end, the first end of the adjustable incline pivotally coupled to, adjustably supported by, and vertically movable with respect to, the vertical support member for adjusting the incline of the adjustable incline, a user support platform movably attached to the adjustable incline, and a user performing a predetermined sequence of different resistance training exercises on the user support platform in a predetermined sequence of different body positions. In one aspect, the predetermined sequence of resistance training exercises and

body positions is designed for speed and ease of body position transitions between exercises, and also minimizing or reducing transitions to provide more time for performing exercises on the adjustable incline.

[0009] Different accessories may be secured to the adjustable incline for performing various resistance training exercises. A folding squat platform may be pivotally and removably connected to the second end of the adjustable incline for performing some exercises. A squat stand may be provided for telescoping removable engagement with the folding squat platform. A push-up or pull-up bar is removably connectable to the second end of the adjustable incline for performing some exercises. A padded foot support may be removably connected to the second end of the adjustable incline. A dip bar assembly may be connected to the adjustable incline, the dip bar assembly including a pair of dip bars movable between at least a retracted, out-of-the way position, and a non-retracted, ready-for-use position. A foot support assembly is pivotally connected to the adjustable incline, and the foot support assembly is pivotable between at least a retracted, out-of-the way position, and a non-retracted, ready-for-use position. A weight bar may be attached to the user support platform for adding standard weight plates in order to achieve greater exercise resistance.

[0010] In one embodiment, the vertical support member includes a vertical support tower including a tower level track therein, the tower level tracks including multiple vertically spaced hooks, and the first end of the adjustable incline is pivotally connected to, and adjustably supported by the hooks of the tower level track. The vertical support member includes an automatic lift mechanism including a driving mechanism, upper and lower pulley assemblies, at least one of which is driven by the driving mechanism, and opposite vertical chains carried by the pulley, the adjustable incline is coupled to the opposite vertical chains, and positioning the first end of the adjustable incline at a desired height includes moving the first end of the adjustable incline up and down with the automatic lift mechanism. The collapsible exercise device is used for personal training. The collapsible exercise device may be used for group training, Pilates training, and rehabilitation. Positioning the first end of the adjustable incline at a desired height includes positioning the first end of the adjustable incline at a desired height level in accordance with a resistance chart indicating the effective weight for various height levels and bodyweights.

[0011] Implementations of the aspect of the invention described immediately above include one or more of the following. The vertical support member includes a base, and the exercise device includes a strut coupling the base to the adjustable incline, and the lift assist mechanism couples the strut to the adjustable incline and is configured to impart a force on the adjustable incline to assist a user in adjusting the incline of the adjustable incline. The lift assist mechanism couples the strut to the adjustable incline at a location between where the strut is coupled to the adjustable incline and the vertical support member, and the lift assist mechanism is configured to push upward and toward the vertical support member on the adjustable incline to assist a user in adjusting the incline of the adjustable incline. The adjustable incline includes a lower end adjacent the ground, the lift assist mechanism couples the strut to the adjustable incline at a location between where the strut is coupled to the adjustable incline and the lower end of the adjustable incline, and the lift assist mechanism is configured to pull downward and toward

the vertical support member on the adjustable incline to assist a user in adjusting the incline of the adjustable incline. The vertical support member includes the lift assist mechanism incorporated therein. The lift assist mechanism includes a spring. The lift assist mechanism includes a gas spring. The lift assist mechanism includes a push-type gas spring. The lift assist mechanism includes a pull-type gas spring. The lift assist mechanism includes one or more coil springs. The one or more cables include a single cable with opposite ends, and further including handles each connected to the opposite ends of the single cable. The exercise device is collapsible. The non-motorized lift assist mechanism includes one or more non-motorized lift assist mechanisms. The first end of the adjustable incline is adjustably supported by the vertical support member using one or more of hooks, notches, slots, holes, pins, bars or the like. The vertical support member does not include hooks, notches, slots, or holes, and the first end of the adjustable incline includes a clamping mechanism that clamps onto the vertical support member of the vertical support member for adjustably supporting the first end of the adjustable incline by the vertical support member. The clamping mechanism(s) secure to vertical support member(s) by friction and/or a clamping force.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0012]** The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate embodiments of the invention and, together with the description, serve to explain the objects, advantages, and principles of the invention. In the drawings,
- [0013]** FIG. 1 is a front perspective view of an embodiment of an exercise device;
- [0014]** FIG. 2 is a side perspective view of the exercise device shown in FIG. 1;
- [0015]** FIG. 3 is a front perspective view of the exercise device of FIGS. 1 and 2, with the glide board or user support platform raised at an angle to the slide rails;
- [0016]** FIG. 4 is a side perspective view of the collapsible inclinable exercise device of FIG. 3 with the glide board adjusted into the same raised position
- [0017]** FIG. 5 is a side elevation view of the exercise device shown in FIG. 1 to 4 with the incline adjusted to a substantially horizontal orientation;
- [0018]** FIG. 6 is a side elevation view of the device shown in FIG. 1 to 5 in a partially collapsed condition;
- [0019]** FIG. 7 is a side elevation view similar to FIG. 5 but illustrating a substantially collapsed condition;
- [0020]** FIG. 8A to 8I are perspective views of various accessories for the exercise device of FIGS. 1 to 7 which may be used for performance of different exercises;
- [0021]** FIG. 9 is a perspective view of another embodiment of an adjustable incline exercise device;
- [0022]** FIG. 10 is a side elevation view of the adjustable incline exercise device of FIG. 9;
- [0023]** FIG. 11 is a side elevation view illustrating the exercise device of FIGS. 9 and 10 in a partially collapsed condition;
- [0024]** FIG. 12 is a rear perspective view of the exercise device shown in FIG. 9 to 11 in a folded state.
- [0025]** FIG. 13 is a perspective view of an embodiment of exercise device similar to the embodiments of the exercise devices shown in FIGS. 1-12 and including an automatic lift mechanism for automatically setting the height and angle of the rails and user support platform.
- [0026]** FIG. 14 is a perspective view of an embodiment of the internal construction of the tower illustrated in the exercise device of FIG. 14.
- [0027]** FIG. 15 is a perspective view of an embodiment of an automatic lift mechanism of the exercise device of FIG. 14.
- [0028]** FIG. 16 is an exemplary resistance chart of resistance against degree of incline of the adjustable incline for the exercise device illustrated in FIGS. 9-12.
- [0029]** FIG. 17 is an exemplary resistance chart similar to FIG. 16 but with resistance as a percentage of bodyweight.
- [0030]** FIG. 18 is an exemplary resistance chart of resistance against degree of incline for the exercise device illustrated in FIGS. 1 to 7.
- [0031]** FIG. 19 is an exemplary resistance chart similar to FIG. 18 but with resistance as a percentage of bodyweight.
- [0032]** FIG. 20 illustrates a seated forward body position for performing a first selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0033]** FIG. 21 illustrates a seated lateral body position for performing a second selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0034]** FIG. 22 illustrates a kneeling lateral body position for performing a third selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0035]** FIG. 23 illustrates a seated backward body position for performing a fourth selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0036]** FIG. 24 illustrates a kneeling backward body position for performing a fifth selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0037]** FIG. 25 illustrates an upright supine body position for performing a sixth selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0038]** FIG. 25A illustrates a modified upright supine position when using a leg pulley system;
- [0039]** FIG. 25B illustrates a modified upright supine bridge position;
- [0040]** FIG. 26 illustrates an inverted supine body position for performing a seventh selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0041]** FIG. 27 illustrates an upright prone body position for performing an eighth selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0042]** FIG. 27A illustrates an alternative upright prone starting position with a leg pulley system;
- [0043]** FIG. 28 illustrates an inverted prone body position for performing a ninth selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0044]** FIG. 29 illustrates an upright side lying body position for performing a tenth selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0045]** FIG. 29A illustrates a start position for a hip adduction exercise using a leg pulley system;
- [0046]** FIG. 29B illustrates an end position for the hip adduction exercise;
- [0047]** FIG. 30 illustrates a base stand body position for performing an eleventh selection of resistance training exercises on the exercise device of FIGS. 1 to 7;
- [0048]** FIG. 31 is a flow diagram illustrating an example of one sequence of exercises using the exercise device of FIG. 5.1 to 7;
- [0049]** FIG. 32 illustrates a flow diagram similar to FIG. 31 but with a modified exercise sequence;

[0050] FIG. 33 is an exemplary chart with guidelines for improving strength using the exercise device;

[0051] FIG. 34 is an exemplary chart with guidelines for a more advanced strength improving exercises routine using the exercise device;

[0052] FIG. 35 is an exemplary chart with guidelines for improving balance using the exercise device;

[0053] FIG. 36 is an exemplary chart with guidelines for a strength and endurance device; and

[0054] FIG. 37 is an exemplary chart with guidelines for cardio-resistance training using the exercise device.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0055] Certain embodiments as disclosed herein provide for a functional body weight exercise method and system for performing resistance training exercises on an exercise device having an adjustable incline.

[0056] After reading this description it will become apparent to one skilled in the art how to implement the invention in various alternative embodiments and alternative applications. However, although various embodiments of the present invention will be described herein, it is understood that these embodiments are presented by way of example only, and not limitation. As such, this detailed description of various alternative embodiments should not be construed to limit the scope or breadth of the present invention.

[0057] FIGS. 1 to 15 illustrate different embodiments of adjustable incline exercise devices and accessories for use with the exercise devices, which may be used in embodiments of the functional body weight exercise method and system described below in connection with FIGS. 16 to 37. The adjustable incline exercise devices in one embodiment are Total Gym Incline Bodyweight Trainers manufactured and sold by Total Gym of San Diego, Calif., and are also described in U.S. Pat. Nos. 7,270,628, 7,503,880, 7,766,801, and 8,323,151, and U.S. Pat. App. Pub. No. 2012/0053028, the contents of each of which are incorporated herein by reference.

[0058] FIG. 1 to 7 illustrate a first inclinable exercise device 100 which includes tower 120 with a carriage 130 vertically slidable along the tower 120. Pivotaly connected rails 140, 150 are pivotally secured to carriage 130 at the upper end of rails 150. A user support platform or glideboard 210 with rollers (not shown) rolls along rails 140, 150.

[0059] Bottom rails 140 are pivotally coupled to top rails 150 at pivot(s)/hinge(s) A. Top rails 150 are pivotally connected to carriage 130 at pivot(s)/hinge(s) B. A plyo strut 160 is pivotally connected at one end to a base 170 at pivot(s)/hinge(s) C and is pivotally connected at an opposite end to bottom rail 140 at pivot(s)/hinge(s) D.

[0060] A lift-assist mechanism 180 is pivotally connected at one end to the plyo strut 160 at pivot(s)/hinge(s) 190 and is pivotally connected at an opposite end to the top rails 150 at pivot(s)/hinge(s) 200. In the embodiment shown, the lift-assist mechanism 180 includes two push-type gas spring/struts 244 between the plyo strut 160 and the upper rail 150. The gas struts attach at angles to prevent pinch point(s) and to balance the load symmetrically. The combined force of the gas struts performs two separate functions: 1) level change lift assist, and/or 2) fold lift assist. The push-type gas spring provides an upward angled force towards the pivot(s)/hinge(s) 200, reducing the upward force and work required by a user when raising the height and increasing the angle of the top rails 150 relative to the ground and when folding/collaps-

ing the inclinable exercise device (see FIGS. 6 and 7). This upward force imparted by the lift-assist mechanism 180 also makes it easier to lower the height and reduce the angle of the top rails 150 because it reduces the lifting work required of the user.

[0061] The carriage 130 is coupled to pulley arms 220B. Pulleys 230 are adjustably attached to pulley arms 220B via pulley locator clamps 231. A connector extends through the pulleys 230 and connects to the user support platform 210. The connector may be of any suitable well-known type, but is preferably a cable with handles at each end. The cable extends through the pulleys 230 positioned on the pulley arms 220B and loops through a third pulley attached to the user support platform 210. The third pulley is positioned along the lateral centerline of the user support platform. This position allows for unilateral (i.e. one arm), bilateral (i.e., two arm) and static equilibrium (i.e. holding the user support platform 210 suspended by keeping a constant force on each handle) use. The cable is of sufficient length to extend through the pulleys 230 and allow the exerciser to grasp one or both of the handles while the exerciser is on the user support platform 210 and the user support platform 210 is at rest. In an alternate embodiment, the connector is two separate cables extending through the pulleys 230 with each cable fixedly attached to the user support platform 210.

[0062] The pulley locator clamps may be positioned on the inner or outer upright position of each pulley arm 220B, depending on the type of exercise, e.g., high, a mid to high position, a middle position, a low to mid position (as seen in FIG. 1) and a low position, on the inner or outer position of pulley arms 220B, as described below in connection with various different exercises which can be performed on the device 100.

[0063] As shown in FIGS. 1-4, the collapsible inclinable exercise device 100 includes tower cap 232, fold bar 234, pulley attach bars 550, incline scale 236, cable handles 238, tower foot 240, foot holder 242, gas struts 244, squat stand 246, squat handle, squat adjust lever 250, squat forks 252, rail base 254, rail foot 256, removal pull pin 258, squat fold pull pin 260, index pin plate 262, glideboard "D" ring 264, rail fold latch/arm/lever 400, rail lock 350, transport wheels 268, tower lift-lock lever 270, center pulley storage ring 272, rail incline release lever 274, foot holder removal pull pin 276, foot holder lowering lever 278, incline up/down switch 280, LED 282, remote control cable handlebars 284, glideboard frame 286, tilt adjust lever 288, and safety key.

[0064] The user support platform or glideboard 210 may be a standard or non-adjustable glideboard or may be an adjustable glideboard movable between a position flat against the incline rails 140, 150 as seen in FIGS. 1 and 2 and a selected inclined position as illustrated in FIGS. 3 and 4, using tilt adjust lever 288. This allows the user to adapt the glideboard to promote better spinal positioning during an exercise.

[0065] With reference to FIGS. 2-6, the collapsing mechanism 110 includes the pivot(s)/hinge(s) A, B, C, D located at strategic locations on the inclinable exercise device so as to facilitate collapsing and deployment of the inclinable exercise device while preventing the tower 120 from accidentally toppling over during collapsing, deployment, and/or use. In FIGS. 5-7, lines identified as Link 1 L1 (or top rail 150/Link 1 L1), Link 2 L2 (or bottom rail 140/Link 2 L2), Link 3 L3 (or plyo strut 160/Link 3 L3), and Link 4 L4 (or tower 120/Link 4 L4) are shown between pivot(s)/hinge(s) A, B, C, D. These lines are shown to assist the reader in understanding the

invention and do not represent any structural elements. The inclinable exercise device is indicated herein as having a four-bar linkage between top rail 150/Link 1 L1, bottom rail 140/Link 2 L2, plyo strut 160/Link 3 L3, and tower 120/Link 4 L4. It should be noted that the lift-assist mechanism 180 is not shown in FIGS. 5 to 7 in order to assist the reader in understanding the collapsing mechanism.

[0066] Pivot(s)/hinge(s) A allows the top rails 150 and the bottom rails 140 to pivot relative to each other, which is important when collapsing/folding the rails 140, 150 together for storage of the inclinable exercise device 100. Pivot(s)/hinge(s) B allows the top rails 150 to pivot relative to the carriage 130, which is important when adjusting the height of the carriage 130/incline of the rails 140, 150. Pivot(s)/hinge(s) C is positioned relative to the base and relative to carriage 130 and rails 140, 150 so that the tower 120 is always structurally supported (e.g., to prevent the tower 120 from accidentally falling over during collapsing and deployment of the inclinable exercise device 100). For example, as shown in FIG. 5, even when the carriage 130 is at its lowest position relative to the tower 120, pivot(s)/hinge(s) B are above pivot (s)/hinge(s) C, which are at the base 170. Because the lateral movement of the tower 120 is restricted at two vertically spaced points, one at the base 170, one vertically spaced above the base 170, the tower 120 may lean slightly away from vertical, but is prevented from toppling over. Pivot(s)/hinge(s) D is positioned relative to the pivot(s)/hinge(s) A so that the lift-assist mechanism 180 can provide folding assistance when folding/collapsing the rails 140, 150 and the inclinable exercise device 100.

[0067] With reference to FIG. 2, the lift-assist mechanism 180 (e.g., gas strut) is attached between the plyo strut 160 and the top rail 150. When raising the carriage 130 and the angle of the rails 140, 150 to adjust the incline of the rails 140, 150, the carriage 130 slides along the tower 120. The top rails 150 and the bottom rails 140 act together as a single link. The tower 120 anchors the lower pivot point C of the plyo strut 160. The force of the strut 180 acts strongly to rotate Link 2 L2/bottom rail and Link 1 L1/top rail about pivot(s)/hinge(s) D to provide lift assistance, reducing the upward force and work required by a user when raising the height and increasing the angle of the top rails 150 relative to the ground.

[0068] When folding the inclinable exercise device with the carriage 130 lowered to its lowest vertical position, the tower 120 and the carriage 130 remain relatively stationary, anchoring the lower end of the plyo strut 160. The force of the lift-assist mechanism 180 acts roughly along the top rail 150/Link 1 L1. This causes the lower rail 140/Link 2 L2 to rotate around pivot(s)/hinge(s) D, the top pivot of the plyo strut 160/Link 3 L3. This mode of force is referred to herein as fold, folding, or collapsing assistance.

[0069] With reference to FIG. 4, when the rails 140, 150 are at the lowest angle possible, the top rail 150/Link 1 L1 and the bottom rail 140/Link 2 L2 are in toggle (i.e., they are in line and can exert maximum force from one to another). The tower 120 is a sliding link (Link 4 L4), which is mostly vertical. Since there is vertical separation between pivot(s)/hinge(s) B and C, even when the rails 140, 150 are at the lowest angle possible, the tower 120 is supported so it will not fall down.

[0070] FIGS. 8A to 8I illustrate some accessories which may be used with the exercise device 100 for performing certain exercises. FIG. 8A illustrates an optional closed chain platform attachment 10. FIG. 8B illustrates an optional press bar 12 for selective attachment to the lower rail for perform-

ing press exercises. FIG. 8C illustrates an optional standing platform or foot stand 14 which creates an extension of glideboard 210 for lunges and other trunk exercises. FIG. 8D illustrates a telescoping toe bar 15 which may be used for footwork and other upper and lower body exercises. FIGS. 8E and 8F illustrate retractable dip bars 16 in a stored position and raised position, respectively. When raised, dip bars 16 may be used for triceps exercises. FIG. 8G illustrates a weight bar 18 which may be attached to the glideboard 210 to allow standard weight plates to be added for greater exercise resistance. FIG. 8H illustrates a pull-up bar 20 attached to the upper slide rails 150 which provides wide, narrow and hammer grip positions. FIG. 8I illustrates an additional platform or SCRUNCH® accessory 22 which may be added in order to perform additional abdominal exercises. Platform 22 has handles 22A and pad or padding 22B.

[0071] FIGS. 9 to 12 illustrate a modified collapsible exercise device 30 constructed in accordance with an embodiment. The collapsible exercise device 30 is shown in an unfolded state in FIGS. 9 and 10, a partially folded state in FIG. 11, and a fully collapsed and folded state in FIG. 12. Collapsible exercise device 30 includes a vertical support member or tower 32 having a base 34 and a tower housing 35. The tower housing 35 extends upward from the intermediate base section of the base 34. The tower housing 35 includes front and rear faces and opposite symmetric sides 38. The sides 38 include tower level tracks 39 with multiple tower level hooks 40 evenly vertically spaced along the tracks 39.

[0072] Slide bars 42 extend inwardly from proximal ends of a pair of upper rails 44. The inwardly extending slide bars 42 may be slid up or down in the tower level tracks 39 and set in corresponding tower level hooks 40 to a desired height. The slide bars 42 may be removable from the upper rails 44. A pair of lower rails 45 is pivotally connected to the upper rails 44 at rail pivot points 46. A strut 48 is pivotally connected to the base 34 at pivot pin 50 and is also pivotally connected to the rail at pivot points 46. The strut 48 includes an upper strut post 54 matingly received within a lower strut post 55. The strut posts may be locked with respect to each other with a spring-loaded pull pin 56 and lateral holes in the upper strut post 54.

[0073] In an alternate embodiment, one end of the strut 48 may be pivotally connected to the upper pivot bar 52, while the other end includes a support platform that rests on a floor.

[0074] A user support platform or glideboard 60 is slidably attached to the rails 44, 45 through a support frame and rollers (not shown) on the support frame. The platform may include a support pad. A bumper (not shown) may be positioned on the lower rails 45 to prevent the user support platform 60 from rolling all the way down the lower rails 45.

[0075] A folding squat platform 62 at the lower end of the inclined rails includes opposite parallel rails 64 joined by perpendicularly extending cross rail 65, and squat pad 63 secured across rails 64. Curved portions 66 of the rails 64 are joined by cross rail 66, and rails 64 and the cross rail 66 are supported by a generally cylindrical cross member 68. The cross member 68 extends perpendicularly between the distal ends of the lower rails 45, joining the lower rails. Ends of the cross member 68 extend laterally beyond the distal ends of lower rails 45 and may carry rollers or wheels for rolling this part of the exercise device 30 along the floor.

[0076] The folding squat platform 62 may be removed from the distal ends of the lower rails 45 by pulling the pull pins 69 out of the pin holes and removing the folding squat platform 62 from the lower rails. A telescoping toe bar accessory such

as accessory **15** of FIG. **8D**, a standing platform **14** as illustrated in FIG. **8C**, modified pad **10** as illustrated in FIG. **8A**, or press bar **12** of FIG. **8B** may be attached to the ends of side rails **45** of the exercise device **30** or the side rails **140** of exercise device **100** of FIGS. **1** to **7** in the same manner as the telescoping squat stand **62** or **248**.

[0077] A folding foot platform **700** may be positioned in an unretracted or unfolded state or a retracted and folded state between upper slide rails **44**, as illustrated in FIGS. **9** to **11**. Cylindrical toe cushions **750** and heel cushions **780** cover T-shaped end portions of a receiving member of platform **700**. Folding, combination pulley-support and pull-up bars **830** are mounted on opposite sides **38** of the upright housing **35** and are pivotally connected to the proximal ends of the respective upper rails **44**. For normal use, the bars **830** may be moved to the position shown in FIG. **1** and locked into place using a pull pin. For performing different exercises, the bars may be rotated into different orientations. FIG. **12** illustrates bars **830** moved into a position parallel with rails **44** when the exercise device is collapsed. Pulleys **940** are slidably attached to the bars **830**. Each pulley **940** includes a collar **950** and a spring-loaded pull pin **960**. An exerciser may move each pulley **940** to a desired position on the bar **830** by pulling on the pull pin **960**, sliding the pulley **940** via the collar **950** to a desired position on the bar **830**, and releasing the pull pin **960** to lock the pulley **940** in place on the bar **830**. It should be noted, the pulley **940** may be slid onto sections or elbows other than the inner tubular section to which it is attached in FIG. **9**.

[0078] A connector extends through the pulleys **940** and connects to the user support platform **60**. The connector may be of any suitable well-known type, but shown by way of example in FIGS. **9** to **12** is a cable **970**. The cable **970** includes handles **980** (connected via links **990**) at each end and extends through the pulleys **940** positioned on the combination pulley-support and pull-up bars **830** and loops through a third pulley **1000** attached to the user support platform **60**. The third pulley **1000** is positioned along the lateral centerline of the user support platform **60**. This position allows for unilateral (i.e. one arm), bilateral (i.e., two arm) and static equilibrium (i.e. holding the user support platform **60** suspended by keeping a constant force on each handle **980**) use.

[0079] The cable **970** should preferably be of sufficient length to extend through the pulleys **940** and allow the exerciser to grasp one or both of the handles **980** while the exerciser is on the user support platform **60** and the user support platform **60** is at rest.

[0080] In an alternate embodiment, the connector may be two separate cables extending through the pulleys **940** with each cable fixedly attached to the user support platform, as in the first embodiment.

[0081] In some examples of exercises using either exercise device **100** of FIGS. **1** to **7** or exercise device **30** of FIGS. **9** to **12**, the exerciser positions himself or herself on the user support platform and grasps one or both of the handles. The exerciser then draws one or both of the handles toward the exerciser and by doing so transports the user support platform up along the lower rails and upper rails. In other exercises, the platform is lowered down the rail. Other exercises may not use the cables and handles.

[0082] By varying the height of the proximal ends **220** of the upper rails **230** on the vertical support tower **110**, the angle θ (shown in FIG. **10**) may be adjusted. The adjustment of this angle θ alters the percentage of the exerciser's weight which

the exerciser's muscles are moving. This allows for adjustment of the intensity of the exerciser's workout. Weight bars **18** as illustrated in FIG. **8G** may be added to the user support platform of either exercise device so that weight plates (not shown) may be positioned on the weight bars, thus adding to the weight propelled by the exerciser's muscles.

[0083] The exerciser may vary the position of the pulleys **940** on the combination pulley-support and pull-up bars **830** in the manner described above. For example, the pulleys **940** may be raised or lowered on the inner tubular sections **870** so that the handles **980** and pulling motion are at a more comfortable orientation or to work different muscle groups. The pulleys **940** may be moved to the outer tubular sections **860** (or other sections) for a wider grip and motion of the handles **980** or to work different muscle groups.

[0084] An exerciser may also vary the resistance while working upper body muscles by positioning him or herself on the user support platform **210** or **60** with the exerciser's feet on the squat stand **246**, **62** or floor. The legs and lower body then provide assistance in moving the user support platform, lessening the load on the upper body muscles. The exerciser may also use the squat stand to perform squat exercise for the lower body muscles.

[0085] In an alternate embodiment, an exerciser may lie on the user support platform **210**, **60** with the exerciser's feet positioned in the foot platform. By bending the exerciser's legs, the exerciser draws the user support platform up along the rails. The exerciser may also perform sit ups on the user support platform by securing his or her legs in the foot platform. In a further exercise example, the squat stand **246**, **62** may be replaced with the press bar accessory **12** and the exerciser may lie on the user support platform and use the press bar accessory **12** to perform a military press or similar exercise.

[0086] In another embodiment, the exerciser may lie on the user support platform **210**, **60**, grip the handles of the dip bar accessory **20**, and perform dips, exercising the arms and chest.

[0087] With reference to FIGS. **13** to **15**, an alternative embodiment of an exercise device **1100** will now be described. The exercise device **1100** is similar to the exercise devices shown and described above with respect to FIGS. **1-12**, except the exercise device **1100** includes an automatic lift mechanism **1110** (FIG. **15**) to set the height and angle of the slide rails **140**, **150** or **44**, **46** and user support platform **210** or **60**. This eliminates the need for a user to manually set the height and angle of the rails **44**, **46** and user support platform **60** as in the previous embodiment. The exercise device **1100** includes a tower **1120** with a tower housing **1130** extending from an intermediate base section **1140** of a base **1150**. The tower housing **1130** includes a front vertical face **1160**, a rear vertical face **1170**, and opposite symmetric sides **1180**. The sides **1180** include elongated vertical tracks **1190**. Slide bars **1210** extend inwardly from proximal ends of the upper rails **44**. The inwardly extending slide bars **1210** are coupled to chains **1230** (FIG. **15**) of the automatic lift mechanism **1110** through couplers **1240**.

[0088] With reference to FIG. **14**, an inner frame assembly **1250** of the tower **1120** is shown. The inner frame assembly **1250** includes the sides **1180** extending from the base **1150** and a horizontal cross support **1260** spanning the distance between the sides **1180** at a top of the frame assembly **1250**. Near a bottom of the frame assembly, between the sides **1180**,

a driving mechanism **1270** (e.g. motor with attached power cord) of the automatic lift mechanism **1110** is disposed.

[0089] With reference to FIG. **15**, the automatic lift mechanism **1110** includes opposite chains **1230**, an upper pulley assembly **1280**, and driving mechanism **1270**, which includes lower pulleys **1290** and shafts **1300**. The upper pulley assembly **1280** includes opposite pulleys **1310** and shaft **1320**. In use, after the driving mechanism **1270** is plugged into a wall outlet, the automatic lift mechanism **1110** is actuated to raise or lower the height and angle of the rails **44**, **45** and user support platform **60**. This may be accomplished with a three-way toggle switch that may be set to an up or raise position for causing the driving mechanism **1270** to rotate in one direction to increase the height and angle of the rails and user support platform, may be set to an down or lower position for causing the driving mechanism **1270** to rotate in an opposite direction to decrease the height and angle of the rails and user support platform, and may be set to a third neutral position where the driving mechanism **1270** is off and the height and angle of the rails and user support platform is locked in place. Varying the height and angle of the rails and user support platform varies the portion of the exerciser's own body weight that the user exerts muscle force against during use of the exercise device **1100**.

[0090] The resistance required at each incline level, taking into consideration the weight of the participant and any added weights, can be found on the Resistance Charts illustrated in FIGS. **16** to **20**. The Resistance Chart is customized to indicate the exercise load required at each level of exercise device **100**. FIGS. **16** and **18** include the resistance in pounds for each incline level from flat to **26** with a standard glideboard (non-adjustable) and an adjustable glideboard as illustrated in FIGS. **3** and **4**, respectively. FIGS. **17** and **19** indicate resistance as a percentage of body weight over the same range of incline level. The exercise device **100**, **30** uses a variable-angle incline plane to create exercise resistance by modifying the user's body weight—the steeper the angle, the more resistance. The resistance values given in the charts in FIGS. **16** to **19** are valid for all of the preceding embodiments, but not all models can accommodate the entire range shown. The resistance in the charts is modified based on cable usage to provide the actual resistance for a particular exercise, as follows:

[0091] A) The table values are unchanged for two hand pulls on the bars, squats, and pulley handles when there is no connection to the glideboard.

[0092] B) The resistance table value is divided by 2 to give the actual resistance for two hand pulls when the center pulley is connected to the glideboard (as in FIGS. **9** to **12**).

[0093] C) The resistance table value is divided by 3 for unilateral movements or when using only one handle when the center pulley is connected to the glideboard and the other handle is not held.

[0094] D) The resistance table value is divided by 4 for unilateral movement with one static hold, i.e. one handle is held stationary while pulling with the other handle with the center pulley connected to the glideboard.

[0095] In the following paragraphs, methods or programs for incline bodyweight training using an inclinable exercise device are described. Some of the additional aspects of the invention described in the following paragraphs include, but not by way of limitation, one or more methods of teaching or instructing, one or more methods of teaching or instructing with respect to an embodiment of the exercise device, one or

more methods of using an embodiment of the exercise device, one or more methods of using one or more features of an embodiment of the exercise device, one or more methods of exercising, training, or rehabilitating, and an embodiment of the exercise device. Although the methods in the following paragraphs may be described in a specific order and may be described as including steps performed in a specific order, in one or more alternative embodiments or aspects, one or more of the methods may be performed in a different order than that described and/or one or more steps of one or more of the methods may be performed in a different order than that described. Further, one or more of the methods and/or one or more of the steps may include fewer methods/steps, additional methods/steps, and/or some of the methods/steps combined with different methods/steps.

[0096] In one embodiment, a functional body weight exercise training method for training a group of individuals on a plurality of adjustable incline exercise devices as described above in connection with FIGS. **1** to **15** is provided. This provides a series of high or medium intensity muscular endurance exercises in a set of eleven different body positions as illustrated in FIGS. **20** to **30**. Each exerciser uses one of the exercise devices and can perform a predetermined sequence of multiple different exercises in different body positions on the same device (similar to circuit training but without having to move between different types of exercise devices). By offering a variety of exercises and the freedom of a dynamic pulley system, the method allows for enhanced muscle development, core integration, increased joint range of motion and improved stability.

[0097] The exercise training method in one embodiment uses the following eleven basic body positions on the user support platform of an adjustable incline exercise device, along with variations in some of the basic body positions for different or more difficult exercise levels. FIGS. **20** to **30** illustrate the eleven body positions on the exercise device **100** of FIGS. **1** to **7**, but it will be understood that different adjustable incline exercise devices may be used with the same body positions in other embodiments. In each of the following positions, the exerciser first adjusts the tower level to the appropriate incline for their skill level, and secures the pulley locator clamps for pulleys **230** at the appropriate position on the LAT bars **220B**. Cable adjustments may also be necessary, as discussed below.

[0098] 1. A seated forward position **80A** as illustrated in FIG. **20**. In this position, exerciser **80** is seated on the glideboard **210** at a selected incline angle, facing forward and away from tower **120**, while gripping handles **238** with both hands next to the rib cage and the knees slightly bent. Hands and elbows are at chest height with palms facing down. Cable **236** extends around a pulley **82** attached to the center of the glideboard.

[0099] 2. A seated lateral position **80B** as illustrated in FIG. **21**. In this position, exerciser **80** is seated on glideboard **210** facing sideways and grips one handle **238** with one or both hands while the other handle hangs down and is stopped at pulley **230**. The center pulley **82** is attached to glideboard **210**.

[0100] 3. A kneeling lateral position **80C** as illustrated in FIG. **22**. In this position, exerciser **80** faces sideways as in position **80B** but kneels on glideboard **210**. The folding squat platform **246** may also be removed in this position. The center pulley **82** remains attached to the

- glideboard. The exerciser grips one handle with either hand, with other handle hanging down and stopped at its pulley.
- [0101] 4. A seated backward position **80D** as illustrated in FIG. 23. In this position, user **80** straddles the slide rails and sits towards the upper edge of the glideboard with the arms extended forward and the hands gripping handles **238**. The center pulley is again attached to the glideboard.
- [0102] 5. A kneeling backward position **80E** as illustrated in FIG. 24. In this position, user **80** kneels towards the top half of glideboard **210** facing the tower, and sits back on the heels in an upright, low kneeling position with the arms extended directly towards pulleys **230**. The center pulley is attached to the top of the glideboard.
- [0103] 6. An upright supine position **80F** as illustrated in FIG. 25. This position may be used both for closed chain exercises (without using cable **236** or handles **236**) and for dynamic cable exercises. In FIG. 25, an exerciser **80** positioned for closed chain exercises is shown. Prior to adopting this position, the pulley **82** is disconnected from the glideboard and the handles are stowed. The exerciser faces away from tower **120**, straddles the rails, and sits towards the bottom edge of the glideboard, then lies back with their head supported towards the upper edge of the glideboard and feet engaging squat stand **246**. FIG. 25A illustrates use of a leg pulley system **70** with an ankle strap **72** in a modified upright supine position without the squat stand. FIG. 25B illustrates a modified upright supine bridge position in which the user raises their lower body from the glideboard **210**.
- [0104] 7. An inverted supine position **80G** as illustrated in FIG. 26. Again, this position may be used for both closed chain and dynamic cable exercises, and a user can readily move from the upright supine position **80F** into this position. In this position, folding foot holder **700** described above is moved into the raised position. While sitting near the upper edge of the glideboard **210**, the exerciser grasps the foot holder to move the glideboard up the rails, then secures their feet between the pads. They then lie back, ensuring their head is fully supported, extend their legs, and place their arms crossed over their chest or lightly behind the head.
- [0105] 8. An upright prone position **80H** as illustrated in FIG. 27. The squat stand is removed for exercise in this position, and the adjustable incline is adjusted to an appropriate angle (exercise intensity increases with decreasing rail angle). In the basic starting position of FIG. 27, the center pulley is disconnected from the glideboard and the glideboard is located at the bottom of the rails. The exerciser places their forearms on the glideboard with palms facing in and feet on the floor. The knees are raised off the glideboard and the neck, shoulders, hips and legs area aligned into a level plank position. The glideboard can remain at the bottom of the rails in a closed position or shifted up the rails in a more advanced “open position”. FIG. 27A illustrates a modified upright prone position using the leg pulley system **70**.
- [0106] 9. An inverted prone position **80I** as illustrated in FIG. 28. In the inverted prone position of FIG. 28, the squat stand **246** is removed and replaced by press bar **12**, but this position may be used with other accessories and with no accessory at the lower end of the rails to perform alternative exercises, as described in more detail below. In the illustrated position, the exerciser **80** is grasping the press bar facing downward on the glideboard **210**, which is positioned in a lower part of the slide rails, with the torso lowered down onto the glideboard and the chest near the bottom of the glideboard. The knees are extended with the feet positioned outside the rails, but the knees may alternatively be flexed.
- [0107] 10. An upright side lying position **80J** as illustrated in FIG. 29. In this position, the squat stand **246** is removed. A leg pulley system accessory **90** with an ankle harness **92** is attached to the tower **120**. Use of this system is described in more detail below. The glideboard is disconnected from the pulleys. The glideboard is positioned at the lower end of the rails and the exerciser **80** is positioned on their side, facing to one side, with their head towards the tower **120** and resting on one elbow. The glideboard can remain at the bottom in a “closed” position or may be raised up the rails for a more difficult “open” position. FIGS. 29A and 29B illustrate a side lying position using leg pulley system **70** to perform a hip adduction exercise.
- [0108] 11. A base standing position **80K** as illustrated in FIG. 30. This position is used for performing lunges. The squat stand is removed and the glideboard is positioned at the lower end of the rails. The exerciser **80** stands behind the lower rail base, facing the tower **120**. One foot is placed towards the middle of the glideboard **210**.
- [0109] The various exercises which can be performed in each of the above positions will now be described in more detail. In all of the exercises referring to the option of “static equilibrium” as a movement variation, this variation involves moving the glideboard or user support platform to a raised position on the incline, and holding it in this position during the exercise.

I. Exercises in Seated Forward Body Position (FIG. 20)

- [0110] Equipment Modifications and Progressions.
- [0111] Lower adjustable glideboard to promote neutral spine position.
- [0112] Raise adjustable glideboard to challenge mobility and awareness.
- [0113] Use weight bar accessory to increase resistance.
- [0114] Modify adjustable pulley position to vary line of pull. Add cable extension kit for taller users.
- [0115] User Modifications and Progressions.
- [0116] Place feet on floor to self-spot.
- [0117] Straddle the rails to promote a neutral spine position.
- [0118] Extend the legs on the glideboard to challenge hamstring mobility.
- [0119] Adjust body position on glideboard for more/less ROM.
- [0120] Vary grip positions.
- [0121] General Movement Variations.
- [0122] Static equilibrium—from the starting position, bring the glideboard up the rails by using one handle, without moving the glideboard, move both arms in the opposite directions simultaneously.
- [0123] Unilateral—from the starting position, use one hand while the opposite arm remains static. return with control to the starting position.

- [0124] Trainer Tips.
- [0125] Place hand(s) on glideboard to assist or resist the movement.
- [0126] Safety.
- [0127] Maintain upright posture throughout each exercise (neutral spine).
- [0128] Keep wrists in a neutral position.
- [0129] Care should be taken to avoid hyperextension during horizontal abduction of the shoulder.
- [0130] Move in a controlled motion throughout the entire exercise.
- [0131] Avoid excessive shoulder elevation, protraction and retraction during the movement.
- [0132] All movements should be pain free.
- [0133] Strength, Mobility and Awareness (SMA).
- [0134] Strength. Regression
- [0135] Self-spot with feet on the floor (in seat position).
- [0136] Shorten the lever length (bend elbows to shorten the lever).
- [0137] Trainer assists glideboard movement.
- [0138] Lower the incline.
- [0139] Unilateral cable work, handles separated.
- [0140] Progression
- [0141] Add weight to the glideboard, i.e., weight bar. lengthen the lever (straighten elbows to lengthen the lever).
- [0142] Trainer adds resistant to glideboard movement.
- [0143] Raise the incline.
- [0144] Use both handles in one hand.
- [0145] Remove pulley from the glideboard.
- [0146] Mobility.
- [0147] Regression
- [0148] Straddle glideboard or sit cross legged to promote neutral spine.
- [0149] Reduce or alter ROM, i.e., narrow press.
- [0150] Self-spot with feet on floor.
- [0151] Trainer spot glideboard during end ROM.
- [0152] Progression
- [0153] Modify adjustable pulley position to increase ROM.
- [0154] Increase or alter ROM, i.e., chest fly.
- [0155] Position the body on the glideboard to maximize available ROM.
- [0156] Raise adjustable glideboard.
- [0157] Awareness.
- [0158] Regression
- [0159] Position the participant(s) in neutral spine focus on alignment.
- [0160] Bilateral exercise.
- [0161] Work through a fixed or partial ROM.
- [0162] Predictable tempos.
- [0163] Lower the incline.
- [0164] Progression
- [0165] Allow the participant to have free ROM or repeat the exact ROM.
- [0166] Unilateral or single cable movement—focus on spinal position.
- [0167] Lower the incline.
- [0168] Unpredictable tempos.
- [0169] Static equilibrium.
- [0170] Trainer encourages multi directional movement.
- [0171] Closed eyes.
1. Chest Press.
- [0172] Prime Movers.
- [0173] Pectoral group, triceps, deltoids (anterior).
- [0174] Equipment Settings
- [0175] Center pulley—attached to glideboard.
- [0176] Pulley locator clamps—mid to high inner position.
- [0177] Tower height—low to mid level.
- [0178] Adjustable glideboard—low to mid level.
- [0179] Optional Accessories:
- [0180] Weight bar,
- [0181] Cable extension kit.
- [0182] Starting Position for Chest Press:
- [0183] Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the top edge of the glideboard. Position handles next to the rib cage with cables on the inside of the forearm. With tension in the cables, position the legs on the glideboard with knees slightly bent. Bring the handles and elbows up to chest height with palms facing down.
- [0184] Position Variations:
- [0185] Self-spot (feet on floor).
- [0186] Straddle.
- [0187] Cross-legged.
- [0188] Extended legs.
- [0189] Hinge forward at hips to emphasize lower pectorals and abdominal stabilization.
- [0190] Low kneeling (see kneeling forward position, below).
- [0191] Vary grip positions.
- [0192] Movement Description:
- [0193] From an upright seated position, press the handles forward at chest height. Maintain a stable trunk as the hands return with control back to the starting position.
- [0194] Movement Variations:
- [0195] Static equilibrium unilateral.
- [0196] press with one arm at a true, alternating left and right incline.
- [0197] press arms upwards.
- [0198] Decline
- [0199] press arms downward.
- [0200] Narrow
- [0201] Press arms inward and forward.
- [0202] Single cable.
2. Chest Fly Exercise
- [0203] Prime Movers
- [0204] Pectoral group, deltoids (anterior).
- [0205] Equipment Settings
- [0206] Center pulley—attached to glideboard.
- [0207] Pulley locator clamps—high outside position.
- [0208] Tower height—low to mid level.
- [0209] Adjustable glideboard—low to mid level.
- [0210] Optional Accessories
- [0211] Weight bar
- [0212] Cable extension kit.
- [0213] Starting Position for Chest Fly:
- [0214] Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower straddle the rails and sit toward the top edge of the glideboard. Position handles next to the rib cage with cables on the outside of

the forearm. With tension in the cables, position the legs on the glideboard with knees slightly bent. Press handles forward at chest level with palms facing in.

[0215] Position Variations

- [0216]** Self-spot (feet on floor).
- [0217]** Straddle.
- [0218]** Cross-legged.
- [0219]** Extended legs.
- [0220]** Hinge forward at hips to emphasize upper pectorals and shoulders.
- [0221]** Hinge backward at hips to emphasize lower pectorals and abdominal stabilization.
- [0222]** Low kneeling (see kneeling forward template).

[0223] Movement Description

- [0224]** From an upright seated position, slowly lower the glideboard down the rails by opening the arms wide with a slight bend in the elbows. Maintain a stable trunk as the shoulders move through a comfortable range of motion and return with control back to the starting position.

[0225] Movement Variations

- [0226]** Static equilibrium.
- [0227]** Unilateral incline chest fly.
- [0228]** Decline chest fly.

3. Front Raise Exercises

[0229] Prime Movers

- [0230]** Deltoids, pectoralis major, trapezius.

[0231] Equipment Settings

- [0232]** Center pulley—attached to glideboard.
- [0233]** Pulley locator clamps—low to mid inner position.
- [0234]** Tower height—low to mid level.
- [0235]** Adjustable glideboard—low to mid level.

[0236] Optional Accessories

- [0237]** Weight bar
- [0238]** Cable extension kit.

[0239] Starting Position for Front Raise:

- [0240]** Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the top edge of the glideboard. Position handles next to the rib cage with cables on the outside of the forearm. With tension in the cables, position the legs on the glideboard with knees slightly bent. Press handles forward at chest level with palms facing down.

[0241] Position Variations

- [0242]** Self-spot (feet on floor).
- [0243]** Straddle.
- [0244]** Cross-legged.
- [0245]** Extended legs.
- [0246]** Low kneeling (see kneeling forward template).
- [0247]** Grip variations.

[0248] Movement Description

- [0249]** From an upright seated position, slowly lower the glideboard down the rails by lowering the arms. Maintain a stable trunk as the shoulders move through a comfortable range of motion and return back to start position while maintaining control of the pulleys.

[0250] Movement Variations

- [0251]** Static equilibrium
- [0252]** Unilateral.

4. Overhead Press with Cables.

[0253] Prime Movers

- [0254]** Deltoids, triceps, pectoralis major.

[0255] Equipment Settings

- [0256]** Center pulley—attached to glideboard.
- [0257]** Pulley locator clamps—mid to high inner position.
- [0258]** Tower incline—low to mid level.
- [0259]** Adjustable glideboard—lowered.

[0260] Optional Accessories

- [0261]** Weight bar
- [0262]** Cable extension kit.

[0263] Starting Position for Overhead Press:

- [0264]** Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the top edge of the glideboard. Position handles next to the rib cage with cables on the outside of the forearm. With tension in the cables, position the legs on the glideboard with knees slightly bent. Bring the handles up to shoulder height with palms facing forward.

[0265] Position Variations

- [0266]** Self-spot (feet on floor)
- [0267]** Straddle
- [0268]** Cross-legged
- [0269]** Extended legs
- [0270]** Hinge forward at hips to emphasize shoulders
- [0271]** Low kneeling (see kneeling forward template).

[0272] Movement Description

- [0273]** From an upright seated position, press the handles up with the hands remaining anterior to the shoulders. Maintain a stable trunk as the hands return with control back to the starting position.

[0274] Movement Variations

- [0275]** Static equilibrium
- [0276]** Unilateral.

5. Biceps Curl with Extended Shoulders.

[0277] Prime Movers

- [0278]** Biceps, brachialis.

[0279] Equipment Settings

- [0280]** Center pulley—attached to glideboard
- [0281]** Pulley locator clamps—low to mid inner position
- [0282]** Tower height—low to mid level
- [0283]** Adjustable glideboard—low to mid level.

[0284] Optional Accessories

- [0285]** Weight bar
- [0286]** Cable extension kit.

[0287] Starting Position for Biceps Curl:

- [0288]** Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the top edge of the glideboard. Position handles next to the rib cage with cables on the outside of the forearm. With tension in the cables, position the legs on the glideboard with knees slightly bent. Bend elbows and position the handles next to the hips with palms facing up.

[0289] Position Variations

- [0290]** Self-spot (feet on floor)
- [0291]** Straddle
- [0292]** Cross-legged
- [0293]** Extended legs
- [0294]** Low kneeling (see kneeling forward template)
- [0295]** Grip variations.

[0296] Movement Description

- [0297]** From an upright seated position, slowly lower the glideboard down the rails by lowering the hands, keeping elbows stationary throughout the exercise. Maintain

a stable trunk as the elbows extend through a comfortable range of motion and return with control back to the starting position.

[0298] Movement Variations

- [0299]** Static equilibrium
- [0300]** Unilateral.

6. Overhead Triceps Press.

[0301] Prime Movers

- [0302]** Triceps.

[0303] Equipment Settings

- [0304]** Center pulley—attached to glideboard
- [0305]** Pulley locator clamps—low to mid inner position
- [0306]** Tower incline—low to mid level
- [0307]** Glideboard tilt—lowered.

[0308] Optional Accessories

- [0309]** Weight bar
- [0310]** Cable extension kit.

[0311] Starting Position for Overhead Triceps Press:

- [0312]** Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the top edge of the glideboard. Position handles next to the rib cage with cables on the outside of the forearm. With tension in the cables, position the legs on the glideboard with knees slightly bent. Raise the elbows up to eye level with palms facing up.

[0313] Position Variations:

- [0314]** Self-spot (feet on floor)
- [0315]** Straddle
- [0316]** Cross-legged
- [0317]** Extended legs
- [0318]** Low kneeling (see kneeling forward)
- [0319]** Grip variations.

[0320] Movement Description

- [0321]** From an upright seated position, press the handles up overhead by extending elbows and keeping the upper arm in line with the cable. Maintain a stable trunk as the hands return with control back to the starting position.

[0322] Movement Variations

- [0323]** Static equilibrium
- [0324]** Unilateral.

II. Exercises in Seated Lateral Body Position (FIG. 21)

[0325] Exercises

- [0326]** Torso rotation
- [0327]** Lateral shoulder press
- [0328]** Single arm chest fly
- [0329]** Horizontal shoulder abduction
- [0330]** Lateral biceps curl
- [0331]** Lateral triceps extension
- [0332]** Internal shoulder rotation.

[0333] Description

- [0334]** This position provides training and conditioning of the trunk, shoulders, chest and arms. The line of pull provides transverse plane resistance with a constant challenge to lateral trunk stability.

[0335] Equipment Considerations

- [0336]** Adjust tower level to appropriate incline
- [0337]** Attach center pulley to glideboard.
- [0338]** Secure pulley locator clamps in appropriate position on LAT or pulley arms.

- [0339]** Position adjustable glideboard at appropriate level.

[0340] Basic Starting Position—See FIG. 21.

- [0341]** Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. With tension in the cable, slowly raise the feet off the floor and lift the handle from the glideboard.

[0342] Equipment Modifications and Progressions

- [0343]** Raise adjustable glideboard to align hips and back.
- [0344]** Use weight bar accessory to increase resistance.
- [0345]** Modify adjustable pulley position to vary line of pull.

[0346] User Modifications and Progressions

- [0347]** Place feet on floor to self-spot.
- [0348]** Adjust body position on glideboard for more/less ROM.

- [0349]** Vary grip positions.

[0350] General Movement Variations

- [0351]** Vary movement angles.

[0352] Trainer Tips

- [0353]** Place hand(s) on glideboard to assist or resist the movement.
- [0354]** Watch wrist and shoulder positions.

[0355] Safety

- [0356]** Maintain upright posture throughout each exercise (neutral spine)
- [0357]** Keep wrists in a neutral position
- [0358]** Move in a controlled motion throughout the entire exercise
- [0359]** Avoid excessive shoulder protraction during the movement

- [0360]** All movements should be pain free

[0361] Strength, Mobility and Awareness (SMA)

[0362] Strength

[0363] Regression

- [0364]** Self-spot with feet on the floor (in a seated position)
- [0365]** Shorten the lever length
- [0366]** Trainer assists glideboard movement
- [0367]** Lower the incline
- [0368]** Unilateral cable work, handles separated

[0369] Progression

- [0370]** Add weight to the glideboard, i.e., weight bar
- [0371]** Lengthen the lever
- [0372]** Trainer adds resistance to glideboard movement
- [0373]** Raise the incline
- [0374]** Use both handles in one hand

[0375] Mobility

[0376] Regression

- [0377]** Adjust pin pulley position that best suits the participants available ROM

- [0378]** Use one handle

- [0379]** Position the body on the glideboard to maximize available ROM, i.e., legs half-crossed

- [0380]** Lower the incline

- [0381]** Raise adjustable glideboard

[0382] Progression

- [0383]** Adjust pin pulley position that uses the maximum ROM

- [0384] Use front LAT bar pulley forward and the back LAT bar pulley back
- [0385] Choose the leg position that challenges mobility, i.e., both legs extended straight out (seated)
- [0386] Raise the incline
- [0387] Work through the maximum available ROM
- [0388] Awareness
- [0389] Regression
- [0390] Position the participant(s) with maximum contact surface area on the glideboard
- [0391] Position the participant(s) in neutral spine; focus on alignment
- [0392] Work through a partial ROM
- [0393] Work at an incline level that is easiest for the participant(s) to control
- [0394] Raise adjustable glideboard
- [0395] Bend elbows and focus on twisting from the obliques
- [0396] Progression
- [0397] Position the participant(s) with minimum contact surface area on the glideboard
- [0398] Allow for maximum controlled ROM
- [0399] Work at an incline level that challenges alignment and awareness
- [0400] Closed eyes
- [0401] 1. Torso Rotation
- [0402] Prime Movers
- [0403] Abdominals, obliques, psoas major
- [0404] Equipment Settings
- [0405] Center pulley—attached to glideboard
- [0406] Pulley locator clamps—mid to high position
- [0407] Tower height—low to mid level
- [0408] Adjustable glideboard—mid to high level
- [0409] Optional Accessories
- [0410] Weight bar
- [0411] Starting Position for Torso Rotation:
- [0412] Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. With tension in the cable, slowly raise the feet off the floor and lift the handle from the glideboard. Clasp the handle with both hands and position the elbows at the sides of the torso. Create a triangle shape between the handles, forearm and trunk.
- [0413] Position Variations
- [0414] Self-spot (feet on floor)
- [0415] Extended legs
- [0416] Cross-legged
- [0417] Mermaid
- [0418] Legs half-crossed
- [0419] Kneeling (see kneeling lateral template)
- [0420] Two cables
- [0421] Extended arms
- [0422] Movement Description
- [0423] Using a twisting motion from the waist, rotate the spine away from the tower, maintaining the triangle shape between the forearms and trunk. Maintain a stable, upright posture and slowly rotate the torso toward the tower.
- [0424] Movement Variations
- [0425] Incline torso rotation
- [0426] Decline torso rotation
2. Lateral Shoulder Press
- [0427] Prime Movers
- [0428] Deltoids triceps, pectoralis major, obliques
- [0429] Equipment Settings
- [0430] Center pulley—attached to glideboard
- [0431] Pulley locator clamps—low to mid position
- [0432] Tower height—low to mid level
- [0433] Adjustable glideboard—high level
- [0434] Optional Accessories
- [0435] Weight bar
- [0436] Starting Position for Lateral Shoulder Press:
- [0437] Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. With tension in the cable, slowly raise the feet off the floor and lift the handle from the glideboard. Flex the elbow to position the active hand next to the shoulder with palm facing the in. Place the resting hand on the hip.
- [0438] Position Variations
- [0439] Self-spot (feet on floor)
- [0440] Extended legs
- [0441] Cross-legged
- [0442] Mermaid
- [0443] Legs half-crossed
- [0444] Kneeling (see kneeling lateral template)
- [0445] Grip variations
- [0446] Movement Description
- [0447] From an upright seated position, press the handle straight overhead with the handle remaining slightly anterior to the trunk. Maintain a stable trunk as the shoulder moves through a comfortable range of motion and return with control back to the starting position.
- [0448] Movement Variations
- [0449] Integrate lateral trunk motion into exercise
3. Single Arm Chest Fly
- [0450] Prime Movers
- [0451] Pectoral group
- [0452] Equipment Settings
- [0453] Center pulley—attached to glideboard
- [0454] Pulley locator clamps—mid to high position
- [0455] Tower height—low to mid level
- [0456] Adjustable glideboard—high level
- [0457] Optional Accessories
- [0458] Weight bar
- [0459] Starting Position for Single Arm Chest Fly:
- [0460] Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. With tension in the cable, slowly raise the feet off the floor and lift the handle from the glideboard. Extend the active hand toward the pulley with palm facing forward. Place the resting hand on the hip.
- [0461] Position Variations
- [0462] Self-spot (feet on floor)
- [0463] Extended legs
- [0464] Cross-legged
- [0465] Mermaid
- [0466] Legs half-crossed
- [0467] Kneeling (see kneeling lateral template)

[0468] Movement Description

[0469] With a slight bend at the elbow, palm facing forward, slowly pull the arm in an arc motion to the front mid-line of the torso. Maintain a stable trunk as the shoulder moves through a comfortable range of motion and return with control back to the starting position.

[0470] Movement Variations

- [0471]** Incline chest fly
- [0472]** Decline chest fly

4. Horizontal Shoulder Abduction

[0473] Prime Movers

[0474] Deltoids (posterior, lateral), Trapezius, rhomboids, teres minor, infraspinatus

[0475] Equipment Settings

- [0476]** Center pulley—attached to glideboard
- [0477]** Pulley locator clamps—mid to high inner position
- [0478]** Tower height—low to mid level
- [0479]** Adjustable glideboard—high level

[0480] Optional Accessories

[0481] Weight bar

[0482] Starting Position for Horizontal Shoulder Adduction:

[0483] Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. Transfer the handle to the opposite hand, in front of the abdomen. With tension in the cable, slowly raise the feet off the floor and lift the handle from the glideboard. Extend the active hand toward the pulley with palm facing backward. Place the resting hand on the hip.

[0484] Position Variations

- [0485]** Self-spot (feet on floor)
- [0486]** Extended legs
- [0487]** Cross-legged
- [0488]** Mermaid
- [0489]** Legs half-crossed
- [0490]** Kneeling (see kneeling lateral template)

[0491] Movement Description

[0492] With a slight bend at the elbow, slowly pull the arm in an arc motion across the front of the chest to the opposite side. Avoid raising the active shoulder toward the ear. Maintain a stable trunk as the shoulder moves through a comfortable range of motion and return with control back to the starting position.

[0493] Movement Variations

- [0494]** Incline horizontal shoulder abduction
- [0495]** Decline horizontal shoulder abduction
- [0496]** Integrate torso rotation into motion

5. Lateral Biceps Curl

[0497] Prime Movers

[0498] Biceps, brachialis, brachioradialis

[0499] Equipment Settings

- [0500]** Center pulley—attached to glideboard
- [0501]** Pulley locator clamps—mid to high inner position
- [0502]** Tower height—low to mid level
- [0503]** Adjustable glideboard—high level

[0504] Optional Accessories

[0505] Weight bar

[0506] Starting Position for Lateral Biceps Curl

[0507] Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. With tension in the cable, slowly raise the feet off the floor and lift the handle from the glideboard. Extend active hand toward the pulley with palm facing up. Place the resting hand on the hip.

[0508] Position Variations

- [0509]** Self-spot (feet on floor)
- [0510]** Extended legs
- [0511]** Cross-legged
- [0512]** Mermaid
- [0513]** Legs half-crossed
- [0514]** Kneeling (see kneeling lateral template)
- [0515]** Grip variations

[0516] Movement Description

[0517] With a slight bend at the elbow, slowly pull the glideboard up the rails by curling the handle up toward the shoulder, keeping elbow stationary. Maintain a stable trunk as the shoulder moves through a comfortable range of motion and return with control back to the starting position.

[0518] Movement Variations

- [0519]** Vary elbow positions

6. Lateral Triceps Extension

[0520] Prime Movers

[0521] Triceps

[0522] Equipment Settings

- [0523]** Center pulley—attached to glideboard
- [0524]** Pulley locator clamps—mid to high inner position
- [0525]** Tower height—low to mid level
- [0526]** Adjustable glideboard—high level

[0527] Starting Position for Lateral Triceps Extension:

[0528] Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. Transfer the handle to the opposite hand, in front of the abdomen. With tension in the cable, slowly raise the feet off the floor and bring the handle directly in front of the chest, palm facing in. Raise the active elbow up and out to the side to shoulder height. Place the resting hand on the hip.

7. Internal Shoulder Rotation

[0529] Prime Movers

[0530] Pectoralis major, latissimus dorsi, deltoid (anterior), subscapularis, teres major

[0531] Equipment Settings

- [0532]** Center pulley—attached to glideboard
- [0533]** Pulley locator clamps—mid to high inner position
- [0534]** Tower height—low to mid level
- [0535]** Adjustable glideboard—high level

[0536] Starting Position for Internal Shoulder Rotation:

[0537] Grasp one handle to bring the glideboard up the rails. Stand facing away from the rails and anchor the handle down near the top edge of the glideboard. Sit back facing sideways into a secure position. With tension in the cable, slowly raise the feet off the floor and lift

the handle from the glideboard. Pull the elbow into the side of the torso and position the handle directly in front of the abdomen.

- [0538] Position Variations
 - [0539] Self-spot (feet on floor)
 - [0540] Extended legs
 - [0541] Cross-legged
 - [0542] Mermaid
 - [0543] Legs half-crossed
 - [0544] Kneeling (see kneeling lateral template)
- [0545] Movement Description
 - [0546] With the elbow bent to 90°, keep the upper arm in tight to the torso and slowly lower the glideboard down the rails by externally rotating the shoulder until a mild stretch is felt in the shoulder. Pull the glideboard back up the rails by internally rotating the shoulder inward in an arc motion until the hand touches the abdominals.
- [0547] Movement Variations
 - [0548] Small towel rolled up between the upper arm and torso
- 8. Hip Adduction with Leg Pulley System
 - [0549] Prime Movers
 - [0550] Hip Adductors: adductor magnus, gracilis, adductor longus
 - [0551] Equipment Settings
 - [0552] Folding platform—removed
 - [0553] Adjustable glideboard—low to mid level
 - [0554] Center pulley—stored behind tower
 - [0555] Pulley locator clamps—NA
 - [0556] Tower height—low to mid level
 - [0557] Required Accessories
 - [0558] Leg pulley system—connected to tower pulley latch; mid to high level
 - [0559] Starting Position for Hip Adduction:
 - [0560] Attach the leg pulley system with ankle harness to the glideboard. Pull the glideboard halfway up the rails. Straddle the glideboard and sit at the bottom edge. Place one foot on the rail base and press up. Attach the ankle harness to the active leg. Lie back, ensuring head is fully supported. Straighten the active leg toward the squat stand. Keeping tension in the cable, bend the inactive knee and position the lower leg across the bottom edge of the glideboard. Slowly turn to the side so the active leg is stacked on top. Rest the head on the bottom arm. Attach cable to outside ring on ankle harness. See FIGS. 21A, 21B for movement.

III. Exercises in Kneeling Lateral Exercise Position (FIG. 22)

- [0561] Exercises
 - [0562] Torso rotation
 - [0563] Lateral shoulder press
 - [0564] Single arm chest fly
 - [0565] Horizontal shoulder abduction
 - [0566] Lateral biceps curl
 - [0567] Lateral triceps extension
 - [0568] Internal shoulder rotation (see description above in connection with seated lateral position)
- [0569] Description
 - [0570] This position has several variations and is a progression of seated lateral. The elevated body position and transverse plane line of pull requires more global stability. Clients should demonstrate proficient stability and balance before attempting this variation. The cable

system provides integrated training and conditioning of the shoulders, chest, arms, trunk and hips.

- [0571] Equipment Considerations
 - [0572] Adjust tower level to appropriate incline
 - [0573] Attach center pulley to glideboard
 - [0574] Secure pulley locator clamps in appropriate position on LAT bars
 - [0575] Position adjustable glideboard at appropriate level
 - [0576] Remove folding platform (advised)
- [0577] Basic Starting Position
 - [0578] Grasp one handle to bring the glideboard up the rails. Stand facing the rails and anchor the handle down near the top edge of the glideboard (hand closest to the tower is holding handle). Kneel on the top portion of the glideboard facing sideways. Separate knees to create a wide base of support between them. Remain in a low kneeling position. With tension in the cable, slowly lift the handle from the glideboard and extend the arm toward the pulley.
- [0579] Alternate Starting Positions
 - [0580] Kneeling lateral high kneeling
 - [0581] Grip variations
- [0582] Position Variations
 - [0583] Same as for seated lateral body position
- [0584] Equipment Modifications and Progressions
 - [0585] Raise adjustable glideboard to keep hips level with floor
 - [0586] Use weight bar accessory to increase resistance
 - [0587] Modify adjustable pulley position to vary line of pull
 - [0588] Add cable extension kit for taller users
- [0589] User Modifications and Progressions
 - [0590] Adjust body position on glideboard for more/less ROM
 - [0591] Vary grip positions
- [0592] General Movement Variations
 - [0593] Vary movement angles
- [0594] Trainer Tips
 - [0595] Secure the glideboard when client is getting into or out of position
 - [0596] Place hand(s) on glideboard to assist or resist the movement
- [0597] Safety
 - [0598] Maintain upright posture throughout each exercise (neutral spine)
 - [0599] Keep wrists in a neutral position
 - [0600] Move in a controlled motion throughout the entire exercise
 - [0601] Avoid excessive shoulder motion during the movement
 - [0602] All movements should be pain free
- [0603] Strength, Mobility and Awareness (SMA)
 - [0604] Strength
 - [0605] Regression
 - [0606] Shorten the lever length
 - [0607] Trainer assists glideboard movement
 - [0608] Lower the incline
 - [0609] Unilateral cable work, handles separated
 - [0610] Progression
 - [0611] Add weight to the glideboard, i.e., weight bar
 - [0612] Lengthen the lever

- [0613] Trainer adds resistance to glideboard movement
- [0614] Raise the incline
- [0615] Use both handles in one hand
- [0616] Mobility
 - [0617] Regression
 - [0618] Adjust pin pulley position that best suits the participants available ROM
 - [0619] Use one handle
 - [0620] Position the body on the glideboard to maximize available ROM
 - [0621] Lower the incline
 - [0622] Raise adjustable glideboard
 - [0623] Progression
 - [0624] Adjust pin pulley position that challenges the maximum ROM
 - [0625] Use front LAT bar pulley forward and the back LAT bar pulley back
 - [0626] Choose the leg position that challenges mobility
 - [0627] Raise the incline
 - [0628] Work through the maximum available ROM
- [0629] Awareness
 - [0630] Regression
 - [0631] Position the participant(s) with maximum contact surface area on the glideboard
 - [0632] Position the participant(s) in neutral spine; focus on alignment
 - [0633] Work through a partial ROM
 - [0634] Work at an incline level that is easiest for the participant(s) to control
 - [0635] Raise adjustable glideboard
 - [0636] Low kneeling
 - [0637] Progression
 - [0638] Position the participant(s) with minimum contact surface area on the glideboard
 - [0639] Allow for maximum controlled ROM
 - [0640] Work at an incline level that challenges alignment and awareness
 - [0641] High kneeling

IV. Exercises in Seated Backward Position (FIG. 23)

- [0642] Exercises
 - [0643] Row
 - [0644] Reverse fly
 - [0645] Shoulder extension
 - [0646] Biceps curl
 - [0647] Triceps kickback
 - [0648] External shoulder rotation with abduction
 - [0649] Forearm curl
 - [0650] Hip abduction
- [0651] Description
 - [0652] This position provides training and conditioning of the posterior shoulders, back, arms and lateral hips. Trunk stabilization is integrated into the exercises, as the upper body is upright and unsupported.
- [0653] Equipment Considerations
 - [0654] Adjust tower level to appropriate incline
 - [0655] Attach center pulley to glideboard
 - [0656] Secure pulley locator clamps in appropriate position on LAT bars
 - [0657] Position adjustable glideboard at appropriate level

- [0658] Basic Starting Position
 - [0659] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, extend arms directly toward the pulleys and lift feet off the floor.
- [0660] Alternate Starting Positions
 - [0661] Self-spot (feet on floor)
 - [0662] Extended legs
 - [0663] Single hand with two cables
 - [0664] Cross-legged
 - [0665] Grip variations (palms up, palms down)
- [0666] Equipment Modifications and Progressions
 - [0667] Raise adjustable glideboard to encourage neutral spine position
 - [0668] Use weight bar accessory to increase resistance
 - [0669] Modify adjustable pulley position to vary line of pull
 - [0670] Add cable extension kit for taller users
- [0671] User Modifications and Progressions
 - [0672] Place feet on floor to self-spot
 - [0673] Adjust body position on glideboard for more/less ROM
 - [0674] Vary grip positions
- [0675] General Movement Variations
 - [0676] Static equilibrium—from the starting position, bring the glideboard up the rails by using one handle. Without moving the glideboard, move both arms in the opposite directions simultaneously.
 - [0677] Unilateral—from the starting position, use one hand while the opposite arm remains static. Return with control to the starting position.
- [0678] Trainer Tips
 - [0679] Place hand(s) on glideboard to assist or resist the movement
- [0680] Safety
 - [0681] Maintain upright posture throughout each exercise (neutral spine)
 - [0682] Keep wrists in a neutral position
 - [0683] Move in a controlled motion throughout the entire exercise
 - [0684] Avoid excessive shoulder motion during the exercises
 - [0685] All movements should be pain free
- [0686] Strength, Mobility and Awareness (SMA)
 - [0687] Strength
 - [0688] Regression
 - [0689] Self-spot with feet on the floor (in seated position)
 - [0690] Shorten the lever length
 - [0691] Trainer assists glideboard movement
 - [0692] Lower the incline
 - [0693] Unilateral cable work, handles separated
 - [0694] Progression
 - [0695] Add weight to the glideboard
 - [0696] Lengthen the lever
 - [0697] Trainer adds resistance to glideboard movement
 - [0698] Raise the incline
 - [0699] Use both handles in one hand
 - [0700] Remove center pulley from the glideboard

- [0701] Mobility
 - [0702] Regression
 - [0703] Straddle glideboard or sit cross legged to promote neutral spine (seated) or wide base of support (kneeling)
 - [0704] Reduce ROM
 - [0705] Self-spot with feet on floor
 - [0706] Trainer spot glideboard during end ROM
 - [0707] Progression
 - [0708] Adjustable pulley position to increase ROM
 - [0709] Move to kneeling body position
 - [0710] Position the body on the glideboard to maximize available ROM
 - [0711] Awareness
 - [0712] Regression
 - [0713] Position the participant(s) in neutral spine; focus on alignment
 - [0714] Bilateral exercise
 - [0715] Work through a fixed or partial ROM
 - [0716] Predictable tempos
 - [0717] Raise the adjustable glideboard
 - [0718] Raise the incline
 - [0719] Progression
 - [0720] Allow the participant to have free ROM
 - [0721] Unilateral exercise
 - [0722] Lower the incline
 - [0723] Suggested body position cues
 - [0724] Unpredictable tempos
1. Rowing Exercise
- [0725] Prime Movers
 - [0726] Latissimus dorsi, trapezius, teres major, deltoids, rhomboids, biceps, brachioradialis
 - [0727] Equipment Settings
 - [0728] Center pulley—attached to glideboard
 - [0729] Pulley locator clamps—mid to high inner position
 - [0730] Tower height—low to mid level
 - [0731] Adjustable glideboard—low to high level
 - [0732] Optional Accessories
 - [0733] Weight bar
 - [0734] Starting Position for Rowing Exercise:
 - [0735] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, extend arms directly toward the pulleys and lift feet off the floor. Palms face in.
 - [0736] Position Variations
 - [0737] Self-spot (feet on floor)
 - [0738] Extended legs
 - [0739] Cross-legged (not pictured)
 - [0740] Single hand with two cables
 - [0741] Grip variations—(palms up, palms down)
 - [0742] Kneeling (see kneeling backward template)
 - [0743] Raised adjustable glideboard
 - [0744] Movement Description
 - [0745] From an upright seated position, pull the handles straight back, until hands reach the sides of the torso. Maintain a stable trunk as the hands return with control back to the starting position.
 - [0746] Movement Variations
 - [0747] Static equilibrium
 - [0748] Unilateral
 - [0749] Unilateral with two cables
 - [0750] High elbow row (elbows at shoulder height)
 - [0751] Row with forward stretch of body and back extension
2. Reverse Fly
- [0752] Prime Movers
 - [0753] Deltoids trapezius, rhomboids, infraspinatus
 - [0754] Equipment Settings
 - [0755] Center pulley—attached to glideboard
 - [0756] Pulley locator clamps—mid to high inner position
 - [0757] Tower height—low to mid level
 - [0758] Adjustable glideboard—low to mid level
 - [0759] Optional Accessories
 - [0760] Weight bar
 - [0761] Starting Position for Reverse Fly:
 - [0762] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, extend arms directly towards the pulleys and lift feet off the floor. Palms face in towards each other.
 - [0763] Position Variations
 - [0764] Self-spot (feet on floor)
 - [0765] Extended legs
 - [0766] Cross-legged (not pictured)
 - [0767] Low kneeling (see kneeling backward template)
 - [0768] Raised adjustable glideboard
 - [0769] Movement Description
 - [0770] From an upright seated position, bring the glideboard up the rails by pulling the arms back in an outward arc until hands are directly out to the side of the torso. Maintain a stable trunk as the hands return with control back to the starting position.
 - [0771] Movement Variations
 - [0772] Angle variations
3. Shoulder Extension
- [0773] Prime Movers
 - [0774] Deltoids (posterior), latissimus dorsi, teres major, pectoralis major, triceps (long head)
 - [0775] Equipment Settings
 - [0776] Center pulley—attached to glideboard
 - [0777] Pulley locator clamps—low to high inner position
 - [0778] Tower height—low to mid level
 - [0779] Adjustable glideboard—low to mid level
 - [0780] Optional Accessories
 - [0781] Weight bar
 - [0782] Starting Position for Shoulder Extension:
 - [0783] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, extend arms directly toward the pulleys and lift feet off the floor. Palms face down toward floor.
 - [0784] Position Variations
 - [0785] Self-spot (feet on floor)
 - [0786] Extended legs
 - [0787] Kneeling (see kneeling backward template)
 - [0788] Raised adjustable glideboard

- [0789] Movement Description
 [0790] With upright posture, press the handles back and down past the hips in an arc motion. Maintain a stable trunk as the hands return with control back to the starting position.
- [0791] Movement Variations
 [0792] Static equilibrium
 [0793] Unilateral
 [0794] Unilateral with torso rotation
 [0795] Split shoulder flexion/extension—one handle moves up above head, other back and down past hips
4. Biceps Curl
- [0796] Prime Movers
 [0797] Biceps, brachialis, brachioradialis
 [0798] Equipment Settings
 [0799] Center pulley—attached to glideboard
 [0800] Pulley locator clamps—mid to high inner position
 [0801] Tower height—lot to mid level
 [0802] Adjustable glideboard—low to mid level
- [0803] Optional Accessories
 [0804] Weight bar
- [0805] Starting Position for Biceps Curl:
 [0806] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, extend arms directly toward the pulleys with palms facing up. Lift feet off the floor.
- [0807] Position Variations
 [0808] Extended legs
 [0809] Cross-legged
 [0810] Single hand with two cables
 [0811] Grip variations (neutral, palm down)
 [0812] Kneeling (see kneeling backward)
- [0813] Movement Description
 [0814] From an upright seated position, pull the glideboard up the rails by curling the handles up toward the shoulders, keeping elbows stationary. Maintain a stable trunk as the hands return with control back to the starting position.
- [0815] Movement Variations
 [0816] Static equilibrium
 [0817] Unilateral
5. Triceps Kickback
- [0818] Prime Movers
 [0819] Equipment Settings
 [0820] Center pulley—attached to glideboard
 [0821] Pulley locator clamps—mid to high inner position
 [0822] Tower height—low to mid level
 [0823] Adjustable glideboard—low to mid high level
- [0824] Optional Accessories
 [0825] Weight bar
- [0826] Starting Position for Triceps Kickback:
 [0827] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, lift feet off the floor, pull the elbows into the sides of the torso and slightly hinge forward at the hips.
- [0828] Position Variations
 [0829] Self-spot (feet on floor)
 [0830] Extended legs
 [0831] Grip variations (palms up, palms down)
 [0832] Kneeling (see kneeling backward position)
- [0833] Movement Description
 [0834] Keeping elbows stationary, press down on the handles until arms are fully extended next to the thighs. Maintain the elbow and spine position as the hands return with control back to the starting position.
- [0835] Movement Variations
 [0836] Static equilibrium
 [0837] Unilateral
6. External Shoulder Rotation with Abduction
- [0838] Prime Movers
 [0839] Teres minor, supraspinatus, infraspinatus, deltoids, biceps, brachialis, trapezius
- [0840] Equipment Settings
 [0841] Center pulley—attached to glideboard
 [0842] Pulley locator clamps—mid to high inner position
 [0843] Tower height—low to mid level
 [0844] Adjustable glideboard—low to mid high level
- [0845] Optional Accessories
 [0846] Weight bar
- [0847] Starting Position for External Shoulder Rotation:
 [0848] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, extend arms directly towards the pulleys and lift feet off the floor. Palms face down toward floor.
- [0849] Position Variations
 [0850] Self-spot (feet on floor)
 [0851] Cross-legged (not pictured)
 [0852] Kneeling (see kneeling backward)
- [0853] Movement Description
 [0854] From an upright seated position, flex elbows and externally rotate the shoulders back to bring the handles above the shoulders in an arc motion. Maintain a stable trunk as the hands return with control back to the starting position.
- [0855] Movement Variations
 [0856] Static equilibrium
 [0857] Unilateral
7. Forearm Curl
- [0858] Prime Movers
 [0859] Wrist flexors
- [0860] Equipment Settings
 [0861] Center pulley—attached to glideboard
 [0862] Pulley locator clamps—low position
 [0863] Tower height—low to mid level
 [0864] Adjustable glideboard—low to mid level
- [0865] Optional Accessories
 [0866] Weight bar
- [0867] Starting Position for Forearm Curl
 [0868] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard, facing the tower. With tension in the cables, bend knees and place feet near the top of the glideboard. Rest forearms on the upper leg so wrists drape over the knees with palms facing up.
- [0869] Position Variations
 [0870] Grip variations (neutral, palms down)

[0871] Movement Description

[0872] From an upright seated position, curl wrists in toward the body by contracting the forearm muscles. Extend wrists back to the starting position.

[0873] Movement Variations

[0874] Static equilibrium

[0875] Unilateral

8. Hip Abduction

[0876] Prime Movers

[0877] Gluteus medius, gluteus maximus

[0878] Equipment Settings

[0879] Center pulley—attached to glideboard

[0880] Pulley locator clamps—low position

[0881] Tower height—low to mid level

[0882] Adjustable glideboard—low to mid level

[0883] Starting Position for Hip Abduction:

[0884] Grasp handles and pull the glideboard halfway up the rails. Straddle the rails and sit toward the top edge of the glideboard facing the tower. Extend legs directly toward the tower with the cables resting gently against the outside of each foot. Keep the handles adjacent to the knees.

[0885] Movement Description

[0886] From an upright seated position, pull the glideboard up the rails by pressing feet outward against the inside of the cables, while keeping arms relaxed. Maintain a stable trunk as the hands return with control back to the starting position. Arms should be fully extended toward knees throughout the exercise.

V. Exercises in Kneeling Backward Position (FIG. 24)

[0887] Exercises

[0888] Lumbar extension

[0889] Surfer LAT pull

[0890] Cross body shoulder raise with back extension

[0891] Description

[0892] This position has several variations and is a progression of seated backward. The elevated body position requires more global stability. Clients should demonstrate proficient stability and balance before attempting this variation. The cable system provides integrated training and conditioning of the posterior shoulders, back, arms and lateral hips.

[0893] Equipment Considerations

[0894] Adjust tower levels to appropriate incline

[0895] Attach center pulley to glideboard

[0896] Secure pulley locator clamps in appropriate position on LAT bars

[0897] Position adjustable glideboard at appropriate level

[0898] Remove folding platform (advised)

[0899] Basic Starting Position (See FIG. 24)

[0900] Grasp handles to pull the glideboard halfway up the rails. Facing the tower, straddle the rails and anchor the handles with knuckles down near the top of the glideboard to stabilize movement. Kneel toward the top half of the glideboard behind the anchored handles. With tension in the cables, sit back on the heels and slowly come up to an upright, low kneeling position with arms extended directly toward the pulleys.

[0901] Alternate Starting Positions

[0902] High kneeling (thighs raised, aligned with torso)

[0903] Grip variations (palms up, palms down)

[0904] Equipment Modifications and Progressions

[0905] Use weight bar accessory to increase resistance

[0906] Modify adjustable pulley position to vary line of pull

[0907] Add cable extension kit for taller users

[0908] User Modifications and Progressions

[0909] Adjust body position on glideboard for more/less ROM

[0910] Vary grip positions

[0911] General Movement Variations

[0912] Static equilibrium—from the starting position, bring the glideboard up the rails by using one handle. Without moving the glideboard, move both arms in the opposite directions simultaneously.

[0913] Unilateral—from the starting position, use one hand while the opposite arm remains static. Return with control to the starting position.

[0914] Vary movement angles.

[0915] Trainer Tips

[0916] Secure the glideboard when client is getting into or out of position

[0917] Place hand(s) on glideboard to assist or resist the movement

[0918] Safety

[0919] Maintain optimal joint position

[0920] Keep wrists in a neutral position

[0921] Move in a controlled motion throughout the entire exercise

[0922] Avoid excessive shoulder elevation, protraction and retraction during the movement

[0923] All movements should be pain free

[0924] Strength, Mobility and Awareness (SMA)**[0925]** Strength**[0926]** Regression

[0927] Shorten the lever length

[0928] Trainer assists glideboard movement

[0929] Lower the incline

[0930] Unilateral cable work, handles separated

[0931] Progression

[0932] Add weight to the glideboard

[0933] Lengthen the lever

[0934] Trainer adds resistance to glideboard movement

[0935] Raise the incline

[0936] Use both handles in one hand

[0937] Remove the center pulley from the glideboard

[0938] Mobility**[0939]** Regression

[0940] Adjustable pulley position to decrease ROM

[0941] Trainer spot glideboard during end ROM

[0942] Progression

[0943] Adjustable pulley position to increase ROM

[0944] Position the body on the glideboard to maximize available ROM

[0945] Awareness**[0946]** Regression

[0947] Position the participant(s) in neutral spine; focus on alignment

[0948] Bilateral exercise

[0949] Work through a fixed or partial ROM

- [0950] Predictable tempos
 - [0951] Raise the incline
 - [0952] Low kneeling
 - [0953] Progression
 - [0954] Allow the participant to have free ROM
 - [0955] Unilateral exercise
 - [0956] Lower the incline
 - [0957] Suggested body position cues
 - [0958] Unpredictable tempos
 - [0959] High kneeling
1. Lumbar Extension
- [0960] Prime Movers
 - [0961] Erector spinae, quadratus lumborum, trapezius (lower)
 - [0962] Equipment Settings
 - [0963] Center pulley—attached to glideboard
 - [0964] Pulley locator clamps—low inner position
 - [0965] Tower height—low to mid level
 - [0966] Optional Accessories
 - [0967] Weight bar
 - [0968] Starting Position for Lumbar Extension:
 - [0969] Grasp handles to pull the glideboard halfway up the rails. Facing the tower, straddle the rails and anchor the handles with knuckles down near the top of the glideboard to stabilize movement. Kneel toward the top half of the glideboard behind the anchored handles. With tension in the cables, sit back on the heels and slowly come up to an upright, low kneeling position. Flex the elbows and position the handles tightly against the upper chest.
 - [0970] Movement Description
 - [0971] Keeping the handles in toward the chest, slowly hinge forward at the hips with a neutral spine. Maintain a stable trunk and pull the glideboard up the rails by using the lower back musculature to extend the torso into an upright position.
 - [0972] Movement Variations
 - [0973] Integrate rotation into the exercise by twisting the torso to one side at the top of the motion.
2. Surfer LAT Pull
- [0974] Prime Movers
 - [0975] Erector spinae, deltoids, latissimus dorsi, teres major, pectoralis major, triceps (long head)
 - [0976] Equipment Settings
 - [0977] Center pulley—attached to glideboard
 - [0978] Pulley locator clamps—low inner position
 - [0979] Tower height—lot to mid level
 - [0980] Adjustable glideboard—low to mid level
 - [0981] Optional Accessories
 - [0982] Weight bar
 - [0983] Starting Position for Surfer LAT Pull:
 - [0984] Grasp handles to pull the glideboard halfway up the rails. Facing the tower, straddle the rails and anchor the handles with knuckles down near the top of the glideboard to stabilize movement. Kneel toward the top half of the glideboard behind the anchored handles. With tension in the cables, sit back on the heels and slowly bend forward reaching the hands towards the pulleys.
 - [0985] Movement Description
 - [0986] From the starting position, pull the glideboard up the rails by simultaneously pulling the handles in a downward arc motion and extending the torso to an upright position. Maintain a neutral spine and slowly reverse the arm motion and hinge forward at the hips back to the starting position.
3. Cross Body Shoulder Raise with Back Extension
- [0987] Movement Variations
 - [0988] Progress to a high kneeling position at the top of the motion
 - [0989] Integrate rotation into the exercise by pressing one handle and shoulder back at the top of the motion.
 - [0990] Prime Movers
 - [0991] Deltoids, trapezius, rhomboids, teres minor infraspinatus, supraspinatus
 - [0992] Equipment Settings
 - [0993] Center pulley—attached to glideboard
 - [0994] Pulley locator clamps—low position
 - [0995] Tower height—lot to mid level
 - [0996] Adjustable glideboard—low to mid level
 - [0997] Optional Accessories
 - [0998] Weight bar
 - [0999] Starting Position for Cross Body Shoulder Raise:
 - [1000] Grasp handles to pull the glideboard halfway up the rails. Facing the tower, straddle the rails and anchor the handle in the hand opposite from the pulley. Anchor the handle with knuckles down near the top of the glideboard to stabilize movement. Kneel toward the top half of the glideboard behind the anchored handle. With tension in the cables, sit back on the heels and slowly bend forward reaching the hand towards the pulley. Resting hand can be positioned on the hip.
 - [1001] Movement Description
 - [1002] Pull the glideboard up the rails by bringing the handle up and across the front of the torso in an arc motion until the handle is overhead and outside the shoulder. Maintain a stable trunk and slowly reverse the motion back to the starting position. Keep the elbow slightly bent throughout the exercise.
 - [1003] Movement Variations
 - [1004] Low to high kneeling. Integrate rotation into the exercise by twisting the torso toward the reaching hand.
- VI. Exercises in Upright Supine Position (FIG. 25)
- [1005] Exercises
 - [1006] Cardio pull
 - [1007] Squat
 - [1008] Plyometric squat
 - [1009] Heel raise
 - [1010] Hip extension with leg pulley
 - [1011] Assisted crunch
 - [1012] Lying leg left
 - [1013] Pullover crunch
 - [1014] LAT pull down
 - [1015] Shoulder adduction
 - [1016] Arm pullover
 - [1017] Triceps dip with dip bars
 - [1018] Triceps press down
 - [1019] Description
 - [1020] This position offers partial weight bearing, closed chain exercises as well as dynamic cable exercises for both upper and lower body muscle groups. The incline plane provides optimal intensity levels to develop power in the lower extremities with closed kinetic chain plyometric exercises. With the ability to hold up to 250 lbs. of additional plate weights, the weight bar accessory can be

- integrated to improve strength for any user. The cable system being located overhead in this position provides unique “top down” resistance to strengthen and condition the abdominals, chest, shoulders, back and arms.
- [1021] The incline plane can also be used as a platform to assist clients with lying supine movements such as trunk flexion. In this case a higher incline decreases intensity while a lower incline increases intensity.
- [1022] Equipment Considerations
- [1023] Adjust tower level to appropriate incline
- [1024] Attach center pulley to glideboard for cable exercises
- [1025] Secure pulley locator clamps in appropriate position on LAT bars
- [1026] Position adjustable glideboard at appropriate level.
- [1027] Basic Starting Position without Dynamic Arm Pulley System (See FIG. 25)
- [1028] Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge of the glideboard facing away from the tower. Place the feet on the squat stand with feet positioned shoulder-width apart. Slowly lie back, ensuring the head is fully supported.
- [1029] Basic Starting Positions with Dynamic Arm Pulley System
- [1030] Upright supine with dynamic arm pulley system
- [1031] Upright supine with dynamic arm pulley system and squat stand
- [1032] Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, slowly lie back, ensuring the head is fully supported and place heels on the bottom edge of the glideboard. Bend the elbows and bring the handles to shoulder height with palms facing in.
- [1033] Basic Starting Position with Leg Pulley System
- [1034] Upright supine with leg pulley system (see FIG. 25A)
- [1035] Alternate Starting Positions without Dynamic Arm Pulley System
- [1036] Bridge position (see FIG. 25B)
- [1037] Feet engage squat stand, arms straight by sides, legs straight, hips raised from glideboard and in line with legs
- [1038] Toes out
- [1039] Staggered feet
- [1040] Skiing position
- [1041] Single leg (one leg engages squat stand other leg raised with both bent)
- [1042] Alternate Starting Positions with Dynamic Arm Pulley System
- [1043] Raise feet off glideboard with hips and knees flexed
- [1044] Raise feet off glideboard with hips and knee extended
- [1045] Equipment Modifications and Progressions
- [1046] Use weight bar accessory to increase resistance
- [1047] Modify adjustable pulley position to vary line of pull
- [1048] Add cable extension kit for taller users
- [1049] User Modifications and Progressions
- [1050] Adjust body position on glideboard for more/less ROM
- [1051] Vary grip positions
- [1052] General Movement Variations
- [1053] Static equilibrium—from the starting position, bring the glideboard up the rails by using one handle. Without moving the glideboard, move both arms in the opposite directions simultaneously.
- [1054] Unilateral—from the starting position, use one hand while the opposite arm remains static. Return with control to the starting position.
- [1055] Plyometric variations—lower body exercises
- [1056] Directional variations—cable pulley exercises
- [1057] Trainer Tips
- [1058] Place hand(s) on glideboard to assist or resist the movement
- [1059] Safety
- [1060] Ensure plyostrut knob is securely tightened
- [1061] Keep wrists in a neutral position during cable exercises
- [1062] Move in a controlled motion throughout the entire exercise
- [1063] Avoid excessive shoulder motion during overhead movements
- [1064] Maintain a strong handle grip for added kinetic chain stability
- [1065] All movements should be pain free
- [1066] Strength, Mobility and Awareness (SMA)
- [1067] Strength
- [1068] Regression
- [1069] Trainer assists glideboard movement
- [1070] Lower the incline
- [1071] Use the handles (cardio pull) for assistance (on squats)
- [1072] Unilateral cable work, handles separated
- [1073] Shorten the lever length
- [1074] Progression
- [1075] Add weight to the glideboard
- [1076] Trainer adds resistance to glideboard movement
- [1077] Raise the incline
- [1078] Unilateral leg work (lower body exercise using the squat stand)
- [1079] Unilateral cable work, both handles in one hand
- [1080] Lengthen the lever length, i.e., cable length
- [1081] Plyometric squats
- [1082] Mobility
- [1083] Regression
- [1084] Place the participant higher on the glideboard
- [1085] Modify adjustable pulley position to decrease ROM
- [1086] Decrease range of motion
- [1087] Position the body on the glideboard to limit available ROM
- [1088] Move the feet higher on the squat stand
- [1089] Progression
- [1090] Place the participant lower on the glideboard, i.e., squats
- [1091] Modify adjustable pulley position to increase ROM
- [1092] Place the feet lower on the squat stand, i.e., squats

- [1093] Position the body on the glideboard to maximize available ROM
- [1094] Awareness
- [1095] Regression
 - [1096] Position the participant(s) in neutral spine; focus on alignment
 - [1097] Bilateral exercise
 - [1098] Work through a fixed or partial ROM
 - [1099] Predictable tempos
 - [1100] Raise the incline
- [1101] Progression
 - [1102] Allow the participant to have free ROM
 - [1103] Unilateral exercise
 - [1104] Move the glideboard down
 - [1105] Suggested body position cues
 - [1106] Unpredictable tempos

1. Cardio Pull

- [1107] Prime Movers
 - [1108] Gluteal group quadriceps, hamstrings, gastrocnemius, latissimus dorsi, teres major, pectoral group, biceps, brachioradialis
- [1109] Equipment Settings
 - [1110] Center pulley—attached to glideboard
 - [1111] Pulley locator clamps—low to mid inner position
 - [1112] Tower height—high level
 - [1113] Adjustable glideboard—low level
- [1114] Optional Accessories
 - [1115] Weight bar
- [1116] Starting Position for Cardio Pull:
 - [1117] Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, place both feet on the squat stand and slowly lie back, ensuring head is fully supported by the glideboard. Bend the elbows and bring the handles to shoulder height with palms facing in toward each other.
- [1118] Position Variations
 - [1119] Toes out
 - [1120] Staggered feet
 - [1121] Skiing position
 - [1122] Single leg
 - [1123] Grip variation (palms facing down)
- [1124] Movement Description
 - [1125] Lower the glideboard by extending the arms overhead while squatting down to about 90° hip and knee flexion. To gain more flexion in the hips and knees, lower the body toward the bottom of the glideboard. Simultaneously, pull the hands down to the shoulders and press the feet into the squat stand to return to the starting position. Distribute the force evenly between the upper and lower body throughout the exercise.
- [1126] Movement Variations
 - [1127] Oblique crunch (alternate knees raised and flexed)
 - [1128] Vary arm motion
 - [1129] Vary grip position
 - [1130] Vary foot placement on the squat stand
 - [1131] Unilateral leg
 - [1132] Unilateral arm

2. Squat

- [1133] Prime Movers
 - [1134] Quadriceps, gluteal group, hamstrings, gastrocnemius
 - [1135] Equipment Settings
 - [1136] Center pulley—stored behind tower
 - [1137] Pulley locator clamps—N/A
 - [1138] Tower height—high level
 - [1139] Adjustable glideboard—low level
 - [1140] Optional Accessories
 - [1141] Weight bar
 - [1142] Squat handle bar
 - [1143] Starting Position for Squat:
 - [1144] Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge facing away from the tower. Place the feet toward the top of the squat stand, positioned shoulder-width apart. Slowly lie back, ensuring head is fully supported by the glideboard. Rest hands on the sides of the glideboard or cross arms over abdomen.
 - [1145] Position Variations
 - [1146] Toes out
 - [1147] Wide stance
 - [1148] Staggered stance
 - [1149] Skiing position
 - [1150] Bridge squat (entire lower torso raised from glideboard)
 - [1151] Movement Description
 - [1152] With a neutral spine position, slowly lower the glideboard by bending both knees and hips to around 90°. Press the feet into the squat stand to return to the starting position. Ensure the knees track over the feet throughout the movement.
 - [1153] Movement Variations
 - [1154] Unilateral (one leg raised from squat stand)
 - [1155] Isometric holds at various positions of the squat
- ### 3. Plyometric Squat
- [1156] Prime Movers
 - [1157] Quadriceps, gluteal group, hamstrings, gastrocnemius
 - [1158] Equipment Settings
 - [1159] Center pulley—stored behind tower
 - [1160] Pulley locator clamps—N/A
 - [1161] Tower height—mid to high level
 - [1162] Adjustable glideboard—low level
 - [1163] Optional Accessories
 - [1164] Weight bar
 - [1165] Squat handle bar
 - [1166] Starting Position for Plyometric Squat:
 - [1167] Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge, facing away from the tower. Place the feet on the squat stand, positioned shoulder-width apart. Slowly lie back, ensuring head is fully supported by the glideboard. Rest hands on the sides of the glideboard or cross arms over abdomen.
 - [1168] Use caution during this exercise.
 - [1169] Position Variations
 - [1170] Toes out
 - [1171] Wide stance
 - [1172] Staggered stance
 - [1173] Skiing position

[1174] Movement Description

[1175] With a neutral spine position, slowly lower the glideboard by bending both knees and hips to around 90°. Rapidly, press the feet forcefully into the squat stand to accelerate up the rails and off the squat stand in a jumping manner. Land softly on the squat stand by decelerating through the range of motion and repeat. Ensure the knees track over the effect throughout the movement and avoid bumping the glideboard at the top during the jump phase of the exercise.

[1176] Movement Variations

[1177] Unilateral (one leg raised from squat stand)

[1178] Unilateral alternating

4. Heel Raise**[1179] Prime Movers**

[1180] Gastrocnemius

[1181] Equipment Settings

[1182] Center pulley—stored behind tower

[1183] Pulley locator clamps—N/A

[1184] Tower height—high level

[1185] Adjustable glideboard—low level

[1186] Telescoping squat stand—adjust stand to allow for full range of motion

[1187] Optional Accessories

[1188] Weight bar

[1189] Squat handle bar

[1190] Starting Position for Heel Raise:

[1191] Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge facing away from the tower. Place the balls of the feet toward the bottom of the squat stand with the heels suspended under the bottom edge. Slowly lie back, ensuring head is fully supported by the glideboard. Rest hands on the sides of the glideboard or cross arms over abdomen.

[1192] Position Variations

[1193] Knees flexed 30° throughout movement

[1194] Movement Description

[1195] Lower heels below the squat stand until a mid stretch is felt in the lower leg muscles. Press the balls of the feet into the squat stand, raising heels as high as possible. Pause at the top of the movement before returning to the stretch position.

[1196] Movement Variations

[1197] Unilateral

[1198] Toes out

[1199] Toes in

5. Hip Extension with Leg Pulley System**[1200] Prime Movers**

[1201] Hamstrings, gluteal group

[1202] Equipment Settings

[1203] Center pulley—stored behind tower

[1204] Pulley locator clamps—N/A

[1205] Tower height—lot to mid level

[1206] Adjustable glideboard—low to mid level

[1207] Leg pulley system with ankle harness—attached to tower

[1208] Optional Accessories

[1209] Weight bar

[1210] Starting Position for Hip Extension:

[1211] Attach the leg pulley system with ankle harness to the glideboard. Pull the glideboard halfway up the rails.

Straddle the glideboard and sit at the bottom edge. Place inactive leg on the lower rail base and press up. Attach the ankle harness to the active leg. Lie back, ensuring head is fully supported. Straighten the active leg toward the lower rail base and with tension on the cable, bring the inactive foot onto the bottom of the glideboard (see FIG. 25A).

[1212] Movement Description

[1213] Maintaining a neutral spine position, slowly allow the cable to pull the leg toward the tower until a mild stretch is felt in the hamstrings. In an arc motion, extend the active hip by pressing the heel down toward the glideboard and repeat the sequence.

[1214] Movement Variations

[1215] Plantar flexed ankle

[1216] Dorsi flexed ankle

6. Assisted Crunch**[1217] Prime Movers**

[1218] Abdominals, obliques

[1219] Equipment Settings

[1220] Center pulley—stored behind tower

[1221] Pulley locator clamps—N/A

[1222] Tower height—low to high level

[1223] Adjustable glideboard—low level

[1224] Starting Position for Assisted Crunch:

[1225] Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge facing away from the tower. Place the feet toward the bottom of the squat stand, positioned shoulder-width apart. Slowly lie back, ensuring head is fully supported by the glideboard. Rest hands across the chest or lightly behind the ears.

[1226] Position Variations

[1227] Arms reaching forward over knees

[1228] Arms extended overhead

[1229] Movement Description

[1230] Contract the abdominal muscles to raise the shoulder blades away from the glideboard. Maintaining tension in the abdominals, slowly lower the torso until the shoulder blades lightly touch the glideboard then return to the flexed position. Keep the abdominals engaged throughout the entire set of repetitions.

[1231] Movement Variations

[1232] Integrate rotation into the motion with added oblique twist

[1233] Elevate the opposite knee to the rotating elbow during oblique twist

7. Lying Leg Lift**[1234] Prime Movers**

[1235] Iliopsoas group, tensor fascia latae, abdominals, obliques

[1236] Equipment Settings

[1237] Center pulley—stored behind tower

[1238] Pulley locator clamps—N/A

[1239] Tower height—high level

[1240] Adjustable glideboard—low level

[1241] Folding foot holder—raised

[1242] Starting Position for Lying Leg Lift:

[1243] Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge facing away

from the tower. Place the glideboard halfway up the rails, straddle the rails and sit at the bottom edge facing away from the tower. Lie back and reach overhead to grasp the top pads of the foot holders with the palms facing down. Slowly bring the feet off the floor and extend the legs forward, keeping the abdominals engaged. If the lower back pulls away from the glideboard with legs extended, flex hips and knees to 90°.

[1244] Position Variations

[1245] Bend hips and knees to 90°

[1246] Hold top of glideboard

[1247] Hips and knees draped to one side

[1248] Movement Description

[1249] With feet together and arms extended overhead, contract the abdominals and hip flexors to raise the lower back off the glideboard and press feet toward ceiling. Slowly lower the hips until the lower back lightly touches the glideboard then return in the opposite direction. Control the motion in each direction and avoid swinging the legs.

[1250] Movement Variations

[1251] Integrate rotation into the motion with added oblique twist

8. Pullover Crunch

[1252] Prime Movers

[1253] Latissimus dorsi, abdominals, obliques, teres major, triceps (long head), pectoral group

[1254] Equipment Settings

[1255] Center pulley—attached to glideboard

[1256] Pulley locator clamps—low to mid position

[1257] Tower height—low to mid level

[1258] Adjustable glideboard—low to mid level

[1259] Optional Accessories

[1260] Weight bar

[1261] Starting Position for Pullover Crunch:

[1262] Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. Slowly extend arms overhead with a slight bend in the elbows, palms facing up.

[1263] Position Variations

[1264] Bend hips and knees to 90°

[1265] Extended legs

[1266] Movement Description

[1267] In an arc motion, bring the handles over the chest and reach over the knees by raising the head and shoulders off the glideboard. Keep the abdominals engaged as the hands return in an arc motion back to the starting position.

[1268] Movement Variations

[1269] Cross body pullover crunch (hoist sideways when raising head and shoulders)

9. Cable Abdominal Crunch

[1270] Prime Movers

[1271] Abdominals, obliques

[1272] Equipment Settings

[1273] Center pulley—attached to glideboard

[1274] Pulley locator clamps—low to mid position

[1275] Tower height—low to mid level

[1276] Adjustable glideboard—low to mid level

[1277] Optional Accessories

[1278] Weight bar

[1279] Starting Position for Cable Abdominal Crunch:

[1280] Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. Bend the elbows and bring the handles up to the shoulders, palms facing down.

[1281] Position Variations

[1282] Bend hips and knees to 90°

[1283] Extended legs

[1284] Movement Description

[1285] With handles held in toward the shoulders, slowly raise the head and shoulders off the glideboard toward the knees by contracting the abdominal muscles. Pause at the top of the movement before returning to starting position.

[1286] No Movement Variations.

10. LAT Pull Down

[1287] Prime Movers

[1288] Latissimus dorsi, rhomboids, biceps, brachioradialis, brachialis, trapezius, teres major

[1289] Equipment Settings

[1290] Center pulley—attached to glideboard

[1291] Pulley locator clamps—low to mid position

[1292] Tower height—mid to high level

[1293] Adjustable glideboard—low to mid level

[1294] Optional Accessories

[1295] Weight bar

[1296] Starting Position for LAT Pull Down:

[1297] Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. Slowly extend arms overhead with a slight bend in the elbows, palms facing up.

[1298] Position Variations

[1299] Bend hips and knees to 90°

[1300] Extended legs

[1301] Movement Description

[1302] Bring the glideboard up the rails by pulling the elbows down to the sides of the torso until hands are directly outside the shoulders. Focus on using the back muscles to facilitate the movement. Maintain a neutral spine as the hands return with control back to the starting position.

[1303] Concentrate on using the back muscles to facilitate the movement. If the glideboard touches the bottom with arms extended overhead, adjust body position.

[1304] Movement Variations

[1305] Static equilibrium

[1306] Unilateral

[1307] Narrow pull with palms facing in toward midline

11. Shoulder Adduction

[1308] Prime Movers

[1309] Latissimus dorsi, triceps (long head), serratus, teres major

[1310] Equipment Settings**[1311]** Center pulley—attached to glideboard**[1312]** Pulley locator clamps—mid to high inner position**[1313]** Tower height—low to mid level**[1314]** Adjustable glideboard—low to mid level**[1315] Optional Accessories****[1316]** Weight bar**[1317] Starting Position for Shoulder Adduction:****[1318]** Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. Bring the handles to the outside of the thighs with palms facing in.**[1319] Position Variations****[1320]** Bend hips and knees to 90°**[1321]** Extended legs**[1322] Movement Description****[1323]** Maintaining a neutral spine position and a slight bend in the elbow, slowly abduct the handles laterally, keeping the hands slightly anterior to the trunk throughout. As the hands approach shoulder height, reverse the motion by using the back muscles to pull the handles back to the starting position. The movement is similar to a gymnast's "Iron Cross" exercise.**[1324] Movement Variations****[1325]** Static equilibrium**[1326]** Unilateral**[1327] Safety Aspects****[1328]** If discomfort is felt in the shoulders during this exercise, shorten the range of motion.**[1329]** Avoid arching the back during the movement. Contract abdominals throughout the exercise to maintain neutral spine.**[1330]** Avoid excessive shoulder elevation during exercise.**[1331]** Do not allow arms to come up too quickly from the bottom of the movement. Return hands back to start position in a controlled manner.**12. Arm Pullover****[1332] Prime Movers****[1333]** Latissimus dorsi, pectoral group, serratus, teres major, triceps (long head)**[1334] Equipment Settings****[1335]** Center pulley—attached to glideboard**[1336]** Pulley locator clamps—mid to high position**[1337]** Tower height—low to mid level**[1338]** Adjustable glideboard—low to mid level**[1339] Optional Accessories****[1340]** Weight bar**[1341] Starting Position for Arm Pullover:****[1342]** Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. Slowly pull the handles down to the sides with palms facing down toward glideboard.**[1343] Position Variations****[1344]** Bend hips and knees to 90°, raised**[1345]** Extended legs (legs extended and angled upward)**[1346] Movement Description****[1347]** Maintaining a neutral spine position and a slight bend in the elbows, bring the handles in an arc motion overhead, toward the tower. Keep the abdominals engaged as the hands move overhead. Using the back muscles, pull the glideboard up the rails by pressing the handles in an arc motion toward the top of the thighs.**[1348] Movement Variations****[1349]** Static equilibrium**[1350]** Unilateral**[1351] Safety Aspects****[1352]** Do not allow arms to do the work during this exercise. Movement should emanate from the back and shoulder muscles.**[1353]** Avoid arching the back during the movement. Contract abdominals throughout the exercise to maintain neutral spine.**[1354]** Avoid excessive shoulder elevation during exercise.**13. Triceps Dip with Dip Bars****[1355] Prime Movers****[1356]** Triceps, pectoralis major**[1357] Equipment Settings****[1358]** Center pulley—stored behind tower**[1359]** Pulley locator clamps—N/A**[1360]** Tower height—low to high level**[1361]** Adjustable glideboard—low level**[1362] Optional Accessories****[1363]** Dip bars (see FIGS. 8E and 8F)—upright position**[1364] Starting Position for Triceps Dip:****[1365]** Disconnect the pulley from the glideboard and stow the handles. Raise the Dip Bars into the upright position. Push the glideboard halfway up the rails, straddle the glideboard and sit at the bottom edge. Lie back, ensuring head is fully supported. Grasp the dip bars with extended arms and place both feet on the bottom edge of the glideboard.**[1366] Position Variations****[1367]** Bend hips and knees to 90°, raised**[1368]** Raise feet off glideboard**[1369] Movement Description****[1370]** Slowly lower the glideboard with control by bending the elbows until a mild stretch is felt in the shoulder. Maintaining neutral wrists and elbows close to the body, press the glideboard up the rails by using the triceps muscles to extend the elbows. Keep a slight bend in the elbow at the top of the motion.**[1371] Movement Variations****[1372]** This exercise can be performed using the dynamic arm pulley system by lowering the pulleys to a low level and positioning the cables between the arms and torso.**[1373] Safety Aspects****[1374]** Do not bounce at the bottom of the movement. Keep movement slow and controlled throughout the exercise.**[1375]** Avoid excessive shoulder elevation during exercise.**[1376]** Focus on stabilizing the shoulders throughout the movement.

14. Triceps Press Down

[1377] Prime Movers**[1378]** Triceps**[1379]** Equipment Settings**[1380]** Center pulley—attached to glideboard**[1381]** Pulley locator clamps—low to mid position**[1382]** Tower height—low to mid level**[1383]** Adjustable glideboard—low to mid level**[1384]** Optional Accessories**[1385]** Weight bar (FIG. 8A)**[1386]** Starting Position for Triceps Press Down:**[1387]** Grasp handles to bring the glideboard halfway up the rails. Facing away from the tower, straddle the rails and sit toward the bottom edge of the glideboard. With tension in the cables, lift feet off the floor and position heels at the bottom edge of the glideboard. Slowly press the handles toward the hips with palms facing down.**[1388]** Position Variations**[1389]** Bend hips and knees to 90°**[1390]** Extended legs**[1391]** Movement Description**[1392]** With the elbows remaining stationary next to the rib cage, slowly lower the glideboard down the rails by bending at the elbows. Press the glideboard back up the rails by using the triceps muscles to extend the elbows.**[1393]** Movement Variations**[1394]** Static equilibrium**[1395]** Unilateral**[1396]** Reverse grip**[1397]** Hammer grip**[1398]** Raised elbows**[1399]** Safety Aspects**[1400]** Avoid arching the back during the movement. Contract abdominals throughout the exercise to maintain neutral spine.**[1401]** Do not lock the elbows out at the bottom of the press.**[1402]** Do not raise head during movement.**[1403]** Avoid movement at the shoulder throughout the exercise.

VII. Exercises in Inverted Supine Position (FIG. 26)

[1404] Exercises**[1405]** Upright Row**[1406]** Lateral Shoulder Raise**[1407]** Inverted Front Raise**[1408]** Cross Body Shoulder Raise**[1409]** Shoulder Shrug**[1410]** Inverted Biceps Curl**[1411]** Hamstring Curl with Trunk Flexion**[1412]** Bent Leg Incline Crunch**[1413]** Hamstring Curl**[1414]** Description**[1415]** This position provides training and conditioning for the shoulders, arms, abdominals, and hamstrings. The dynamic arm pulley system creates a line of pull similar to that of free-weights with the direction of resistance originating from below the body. The folding foot holder provides a secure position for the feet to enable inverted joint decompression or challenging abdominal and hamstring exercises. Refrain from using this position with clients classified as hypertensive or immediately following cardiovascular exercise.**[1416]** Equipment Considerations**[1417]** Adjust tower level to appropriate incline**[1418]** Attach center pulley to glideboard for cable exercises**[1419]** Secure pulley locator clamps in appropriate position on LAT bars**[1420]** Position adjustable glideboard at appropriate level**[1421]** Raise the folding foot holder 700 to secure feet for select exercises**[1422]** Basic Starting Position with Folding Foot Holder (See FIG. 26)**[1423]** Disconnect the pulley from the glideboard and raise the folding foot holder to the “upright” position. Facing the tower, straddle the rails and sit near the top edge of the glideboard. Grasp the foot holder to pull the glideboard up the rails and secure the feet between the pads. Slowly lie back, ensuring head is fully supported. Extend the legs and place the arms across the chest or lightly behind the head.**[1424]** Basic Starting Position with Dynamic Arm Pulley System**[1425]** Inverted supine with dynamic arm pulley system**[1426]** Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Slowly lie back, ensuring head is fully supported. With tension in the cables, bring the heels up to the top edge of the glideboard and extend the arms toward the pulleys.**[1427]** Alternate Starting Positions with Folding Foot Holder**[1428]** One foot secured in foot holder**[1429]** Vary arm positions**[1430]** Alternate Starting Positions with Dynamic Arm Pulley System**[1431]** Hips and knees flexed to 90°**[1432]** Hips rotated to side**[1433]** Equipment Modifications and Progressions**[1434]** Raise adjustable glideboard to keep head above heart**[1435]** Use weight bar accessory to increase resistance**[1436]** Modify adjustable pulley position to vary line of pull**[1437]** Add cable extension kit for taller users**[1438]** User Modifications and Progressions**[1439]** Adjust body position on glideboard for more/less ROM**[1440]** Vary grip positions**[1441]** General Movement Variations with Dynamic Arm Pulley System**[1442]** Static equilibrium—from the starting position, bring the glideboard up the rails by using one handle. Without moving the glideboard, move both arms in the opposite directions simultaneously.**[1443]** Unilateral—from the starting position, use one hand while the opposite arm remains static. Return with control to the starting position.**[1444]** General Movement Variations with Folding Foot Holder**[1445]** Unilateral—one foot secure in the folding foot holder**[1446]** Oblique twist**[1447]** Various hand reaches

- [1448] Trainer Tips
- [1449] Place hand(s) on glideboard to assist or resist the movement
- [1450] Assist the client getting out of this position
- [1451] Safety
- [1452] Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness or light-headedness
- [1453] Keep wrists in a neutral position
- [1454] Refrain from using this position after cardiovascular exercises or if classified with hypertension
- [1455] Move in a controlled motion throughout the entire exercise
- [1456] Avoid excessive shoulder elevation, protraction and retraction during the movement
- [1457] All movements should be pain free
- [1458] Strength, Mobility and Awareness (SMA)
- [1459] Strength
- [1460] Regression
- [1461] Self-spot with feet against the rails
- [1462] Shorten the lever length
- [1463] Trainer assists glideboard movement
- [1464] Lower the incline
- [1465] Unilateral cable work, handles separated
- [1466] Progression
- [1467] Place the feet on the tower and press away
- [1468] Add weight to the glideboard
- [1469] Lengthen the lever
- [1470] Trainer adds resistance to glideboard movement
- [1471] Raise the incline
- [1472] Use both handles in one hand
- [1473] Remove center pulley from glideboard
- [1474] Unilateral, i.e., foot holder exercises
- [1475] Mobility
- [1476] Regression
- [1477] Straddle glideboard or sit cross legged to promote neutral spine
- [1478] Reduce ROM
- [1479] Self-spot with feet on floor
- [1480] Trainer spot glideboard during end of ROM
- [1481] Sit up using the foot holder
- [1482] Progression
- [1483] Modify adjustable pulley position to increase ROM
- [1484] Move the feet lower on the squat stand
- [1485] Position the body on the glideboard to maximize available ROM
- [1486] Perform unilaterally to increase the available ROM
- [1487] Awareness
- [1488] Regression
- [1489] Position the participant(s) in neutral spine; focus on alignment
- [1490] Bilateral exercise
- [1491] Work through a fixed or partial ROM
- [1492] Predictable tempos
- [1493] Raise the incline
- [1494] Raise adjustable glideboard
- [1495] Progression
- [1496] Allow the participant to have free ROM
- [1497] Unilateral exercise
- [1498] Lower the incline
- [1499] Suggested body position cues
- [1500] Unpredictable tempos
- [1501] Closed eyes
1. Upright Row
- [1502] Prime Movers
- [1503] Deltoids, trapezius, biceps, brachialis, brachioradialis, supraspinatus, infraspinatus
- [1504] Equipment Settings
- [1505] Center pulley—attached to glideboard
- [1506] Pulley locator clamps—low to mid inner position
- [1507] Tower height—low to mid level
- [1508] Adjustable glideboard—low to high level
- [1509] Optional Accessories
- [1510] Weight bar
- [1511] Starting Position for Upright Row
- [1512] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Slowly lie back, ensuring head is fully supported. With tension in the cables, bring the heels up to the top edge of the glideboard and extend the arms toward the pulleys, palms facing down toward ground.
- [1513] Position Variations
- [1514] Hips and knees flexed to 90°
- [1515] Movement Description
- [1516] Maintaining a neutral wrist position, bring the glideboard up the rails by pulling the handles directly up to shoulder height with elbows in line with the torso. Slowly lower the glideboard down the rails by returning the hands to the starting position. Keep the handles on the outside of the torso throughout the exercise.
- [1517] Movement Variations
- [1518] Static equilibrium
- [1519] Unilateral
- [1520] Safety Aspects
- [1521] Do not raise the handles above shoulder level
- [1522] Ensure head is fully supported by the glideboard
- [1523] Avoid excessive shoulder depression and elevation during the movement
- [1524] Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness, or light-headedness
2. Inverted Lateral Shoulder Raise
- [1525] Prime Movers
- [1526] Deltoids
- [1527] Equipment Settings
- [1528] Center pulley—attached to glideboard
- [1529] Pulley locator clamps—low to mid inner position
- [1530] Tower height—low to mid level
- [1531] Adjustable glideboard—low to high level
- [1532] Optional Accessories
- [1533] Weight bar
- [1534] Starting Position for Inverted Lateral Shoulder Raise:
- [1535] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Slowly lie back, ensuring head is fully supported. With tension in the cables, bring the heels up to the top edge of the glideboard and extend the arms toward the pulleys, palms facing in.

[1536] Position Variations**[1537]** Hips and knees flexed to 90°**[1538]** Movement Description**[1539]** Maintaining a neutral wrist position and a slight bend in the elbow, bring the glideboard up the rails by pulling the handles away from the hips, up to shoulder height. Keep the handles anterior to the torso throughout the exercise. Slowly lower the glideboard down the rails by controlling the handles back to the starting position.**[1540]** Movement Variations**[1541]** Static equilibrium**[1542]** Unilateral**[1543]** If discomfort is felt in the shoulders, stop just short of shoulder height or with a pain free range of motion**[1544]** If the glideboard contacts the top or bottom of the rails, adjust body position up the glideboard**[1545]** Safety Aspects**[1546]** Do not raise the handles above shoulder level**[1547]** Ensure head is fully supported by the glideboard**[1548]** Avoid excessive shoulder depression and elevation during the movement**[1549]** Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness, or lightheadedness

3. Inverted Front Raise

[1550] Prime Movers**[1551]** Deltoids (anterior), Pectoralis Major**[1552]** Equipment Settings**[1553]** Center pulley—attached to glideboard**[1554]** Pulley locator clamps—mid to high inner position**[1555]** Tower height—low to mid level**[1556]** Adjustable glideboard—low to high level**[1557]** Optional Accessories**[1558]** Weight bar**[1559]** Starting Position for Inverted Front Raise:**[1560]** Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Slowly lie back, ensuring head is fully supported. With tension in the cables, bring the heels up to the top edge of the glideboard and extend the arms toward the pulleys, palms facing down toward ground.**[1561]** Position Variations**[1562]** Hips and knees flexed to 90°**[1563]** Movement Description**[1564]** Maintaining a neutral wrist position and a slight bend in the elbow, bring the glideboard up the rails by pulling the handles up in front of the body to shoulder height. Keep the shoulders retracted throughout the exercise. Slowly lower the glideboard down the rails by controlling the handles back to the starting position.**[1565]** Movement Variations**[1566]** Static equilibrium**[1567]** Unilateral**[1568]** If discomfort is felt in the shoulders, stop just short of shoulder height or within a pain free range of motion**[1569]** If the glideboard contacts the top or bottom of the rails, adjust body position up the glideboard**[1570]** Safety Aspects**[1571]** Do not raise the handles above shoulder level**[1572]** Ensure head is fully supported by the glideboard**[1573]** Avoid excessive shoulder depression and elevation during the movement**[1574]** Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness, or lightheadedness

4. Cross Body Shoulder Raise

[1575] Prime Movers**[1576]** Deltoids, trapezius, teres minor, infraspinatus, supraspinatus**[1577]** Equipment Settings**[1578]** Center pulley—attached to glideboard**[1579]** Pulley locator clamps—mid to high outside position**[1580]** Tower height—low to mid level**[1581]** Adjustable glideboard—low to high level**[1582]** Optional Accessories**[1583]** Weight bar**[1584]** Starting Position for Cross Body Shoulder Raise:**[1585]** Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Slowly lie back, ensuring head is fully supported. With tension in the cables, bring the heels up to the top edge of the glideboard and tilt the hips away from the cable. Extend the arm across the body toward the pulley, palms facing down. Place inactive arm on hip or side of glideboard.**[1586]** Position Variations**[1587]** Hips and knees flexed to 90°**[1588]** Movement Description**[1589]** Maintaining a neutral wrist position and a slight bend in the elbow, pull the handle up and across the front of the torso in an arc motion until the handle is overhead and outside the shoulder. Slowly lower the glideboard down the rails by controlling the handles back to the starting position.**[1590]** Movement Variations**[1591]** If discomfort is felt in the shoulders, stop just short of shoulder height or within a pain free range of motion**[1592]** If the glideboard contacts the top or bottom of the rails, adjust body position up the glideboard**[1593]** Safety Aspects**[1594]** Ensure head is fully supported by the glideboard**[1595]** Avoid excessive shoulder depression and elevation during the movement**[1596]** Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness, or lightheadedness

5. Shoulder Shrug

[1597] Prime Movers**[1598]** Trapezius, levator scapulae**[1599]** Equipment Settings**[1600]** Center pulley—attached to glideboard**[1601]** Pulley locator clamps—low to mid inner position**[1602]** Tower height—low to mid level**[1603]** Adjustable glideboard—low to high level**[1604]** Optional Accessories**[1605]** Weight bar**[1606]** Dip bars—upright position

[1607] Starting Position with Dynamic Arm Pulley System

[1608] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Slowly lie back, ensuring head is fully supported. With tension in the cables, bring the heels up to the top edge of the glideboard and extend the arms toward the pulleys, palms facing in.

[1609] Starting Position with Dip Bars

[1610] Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Grasp the dip bars and slowly lie back, ensuring head is fully supported. Holding the dip bars, bring the heels up to the top edge of the glideboard and retract the shoulders.

[1611] Position Variations

[1612] Hips and knees flexed to 90°

[1613] Movement Description

[1614] Maintaining straight arms, pull the glideboard up the rails by elevating the shoulders toward the ears. Slowly lower the glideboard back down the rails by lowering the shoulders to the starting position. Keep shoulders in line with the glideboard throughout the exercise.

[1615] Movement Variations

[1616] Static equilibrium

[1617] Unilateral

6. Inverted Biceps Curl

[1618] Prime Movers

[1619] Biceps, brachialis

[1620] Equipment Settings

[1621] Center pulley—attached to glideboard

[1622] Pulley locator clamps—low to high inner position

[1623] Tower height—low to mid level

[1624] Adjustable glideboard—low to high level

[1625] Optional Accessories

[1626] Weight bar

[1627] Starting Position for Inverted Biceps Curl:

[1628] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the rails and sit toward the top edge of the glideboard. Slowly lie back, ensuring head is fully supported. With tension in the cables, bring the heels up to the top edge of the glideboard and extend the arms towards the pulleys with a slight bend in the elbows. Palms face up.

[1629] Position Variations

[1630] Hips and knees flexed to 90°

[1631] Grip variations (neutral, palms down)

[1632] Movement Description

[1633] Maintaining a neutral wrist position and a slight bend in the elbow, pull the handle up towards the shoulders with the elbows remaining in place. Keep the shoulders retracted throughout the exercise. Slowly lower the glideboard down the rails by controlling the handles back to the starting position. Keep a slight bend at the elbows at the bottom of the movement.

[1634] Movement Variations

[1635] Static equilibrium

[1636] Unilateral

7. Hamstring Curl with Trunk Flexion

[1637] Prime Movers

[1638] Hamstrings, gastrocnemius, abdominals, obliques

[1639] Equipment Settings

[1640] Center pulley—stored behind tower

[1641] Pulley locator clamps—N/A

[1642] Tower height—low to mid level

[1643] Adjustable glideboard—low to high level

[1644] Optional Accessories

[1645] Weight bar

[1646] Starting Position for Hamstring Curl:

[1647] Disconnect the pulley from the glideboard and stow handles. Raise the folding foot holder to the “upright” position. Facing the tower, straddle the rails and sit near the top edge of the glideboard. Grasp the foot holder to pull the glideboard up the rails and secure the feet between the pads. Slowly lie back, ensuring head is fully supported. Extend the legs and place the arms across the chest or lightly behind the head.

[1648] Position Variations

[1649] Arms reaching forward toward knees

[1650] Arms extended overhead

[1651] Movement Description

[1652] With the ankles in a plantar flexed position, lift the head and shoulders off the glideboard by contracting the abdominal muscles. Simultaneously pull the glideboard up the rails by pulling the heels toward the hips. Maintaining tension in the abdominals, control the glideboard down the rails with the hamstrings and begin lowering the head and shoulders until the shoulder blades lightly touch the glideboard and repeat. Keep the abdominals engaged throughout the entire set of repetitions.

[1653] Movement Variations

[1654] Integrate rotation into the motion with added oblique twist

[1655] Unilateral

[1656] Safety Aspects

[1657] Do not pull excessively on the head with hands. This places stress on the cervical spine.

[1658] Do not let the glideboard fall down the rails after the curl.

[1659] Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness, or lightheadedness.

8. Bent Leg Incline Crunch

[1660] Prime Movers

[1661] Hamstrings, abdominals, obliques

[1662] Equipment Settings

[1663] Center pulley—stored behind tower

[1664] Pulley locator clamps—N/A

[1665] Tower height—low to mid level

[1666] Adjustable glideboard—low to high level

[1667] Optional Accessories

[1668] Weight bar

[1669] Starting Position for Bent Leg Incline Crunch:

[1670] Disconnect the pulley from the glideboard and stow handles. Raise the folding foot holder to the “upright” position. Facing the tower, straddle the rails and sit near the top edge of the glideboard. Grasp the foot holder to pull the glideboard up the rails and secure the feet between the pads. Slowly lie back, ensuring head is fully supported. Extend the legs and place the arms across the chest or lightly behind the head.

[1671] Position Variations

[1672] Arms reaching forward toward knees

[1673] Arms extended overhead

[1674] Movement Description

[1675] With the ankles in a plantar flexed position, pull the glideboard up the rails by pulling the heels toward the hips. Maintaining the knees in a flexed position. Lift head and shoulders off the glideboard by contracting the abdominal muscles. Lower the head and shoulders until the shoulder blades lightly touch the glideboard and repeat the crunch. Keep the hamstrings and abdominals engaged throughout the entire set of repetitions.

[1676] Avoid pulling excessively on the head with hands

[1677] Movement Variations

[1678] Integrate rotation into the motion with added oblique twist

[1679] If the movement is too difficult, place arms across the chest, or reach arms to outer thighs

[1680] Safety Aspects

[1681] Do not pull excessively on the head with hands. This places stress on the cervical spine.

[1682] Do not let the glideboard fall down the rails after the curl.

[1683] Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness, or light-headedness.

9. Hamstring Curl

[1684] Prime Movers

[1685] Hamstrings, gastrocnemius

[1686] Equipment Settings

[1687] Center pulley—stored behind tower

[1688] Pulley locator clamps—N/A

[1689] Tower height—low to mid level

[1690] Adjustable glideboard—low to high level

[1691] Optional Accessories

[1692] Weight bar

[1693] Starting Position for Hamstring Curl:

[1694] Disconnect the pulley from the glideboard and stow handles. Raise the folding foot holder to the “upright” position. Facing the tower, straddle the rails and sit near the top edge of the glideboard. Grasp the foot holder to pull the glideboard up the rails and secure the feet between the pads. Slowly lie back, ensuring head is fully supported. Extend the legs and place the arms across the chest.

[1695] Position Variations

[1696] Seated upright with hands on glideboard, behind hips

[1697] Movement Description

[1698] With the ankles in a plantar flexed position, pull the glideboard up the rails by pulling the heels toward the hips until the knees are flexed around 90°. Maintaining tension on the hamstrings, control the glideboard down the rails and repeat. Keep the hamstrings engaged throughout the entire set of repetitions. Maintain a neutral spine position throughout the exercise.

[1699] Movement Variations

[1700] Unilateral (one leg)

[1701] Safety Aspects

[1702] Do not pull excessively on the head with hands. This places stress on the cervical spine.

[1703] Do not let the glideboard fall down the rails after the curl.

[1704] Discontinue exercise or prop the torso up if inverted position causes nausea, dizziness, or light-headedness.

VIII. Exercises in Upright Prone Position (FIG. 27)

[1705] Exercises

[1706] Plank

[1707] Pike

[1708] Push-up

[1709] Sprint Start

[1710] Pull-up

[1711] Swimmer

[1712] Prone Reverse Fly with Back Extension

[1713] Prone Biceps Curl

[1714] Scrunch (Jack Knife)

[1715] Knee Extension with Leg Pulley

[1716] Description

[1717] This position offers a wide variety of isolated and integrated strength and conditioning for nearly every major muscle group.

[1718] When the incline plane is used for plank or push up exercises, the intensity is increased as the angle of the rails is decreased. For example, a push up on the floor is more difficult than a push up on an incline. To challenge stability and balance, the glideboard can be held in the “open position,” meaning that it is not resting at the bottom of the rails.

[1719] The LAT bars are used to provide partial weight bearing exercises for the back, shoulders and arms. This allows clients of any fitness level to perform the pull up exercise. The lower intensity is also ideal for developing power in the upper body by incorporating plyometric exercise variations.

[1720] The dynamic arm pulley system, being located overhead in this position provides unique “top down” resistance that can be used to strengthen and condition specific upper body muscle groups. Or, integrate the entire upper body with exercises that mimic different swimming strokes.

[1721] Equipment Considerations

[1722] Adjust tower level to appropriate incline

[1723] Attach center pulley to glideboard for cable exercises

[1724] Secure pulley locator clamps in appropriate position on LAT bars for cable exercises

[1725] Lower the LAT bars for pull up exercises

[1726] Position adjustable glideboard at appropriate level

[1727] Remove or install the folding platform for specific exercises

[1728] Attach the SCRUNCH® accessory for specific exercises

[1729] Install the Leg Pulley System for specific exercises

[1730] Basic Starting Positions

[1731] Upright prone—plank position (see FIG. 27)

[1732] Disconnect the pulley from the glideboard and remove the folding platform. With the glideboard at the bottom of the rails, face the tower and toward the lower half of the glideboard. Place the forearms toward the top of the glideboard with palms facing in. Raise the knees off the glideboard and align the neck, shoulders, hips and legs into a level plank position. Press into the forearms to keep the shoulders in a neutral position. The

- glideboard can remain at the bottom in a “closed position” or shifted up the rails in the more advanced “open position.”
- [1733] Basic Starting Positions with Leg Pulley System
- [1734] Upright prone with leg pulley system (see FIG. 27A)
- [1735] Alternate Starting Positions
- [1736] Open glideboard (raised up incline from FIG. 27 position)
- [1737] Kneeling with one knee on glideboard and opposite foot on rail base
- [1738] Kneeling with one knee and opposite foot on squat stand
- [1739] Starting Positions with LAT Bars
- [1740] Upright prone with LAT bars (basic)
- [1741] Disconnect the pulley from the glideboard and lower the LAT bars downward into the pull-up position. Facing the tower straddle the rails and push the glideboard halfway up the incline. Lie prone with the chest positioned near the top edge of the glideboard and grasp the LAT bars, palms facing down. With a strong grip, slowly bring the legs onto the glideboard.
- [1742] Unilateral with LAT bars
- [1743] Basic Starting Position with Dynamic Arm Pulley System
- [1744] Upright prone with dynamic arm pulley system.
- [1745] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the glideboard and anchor the handles toward the top edge. Lie prone with the chest near the top edge of the glideboard. With tension in the cables, slowly bring the legs onto the glideboard. Knees can be flexed or extended. Hands reach overhead toward the pulleys with palms facing down toward the ground.
- [1746] Alternate Starting Position with Dynamic Arm Pulley System
- [1747] Elbows on glideboard, knees bent up
- [1748] Grip variations
- [1749] Equipment Modifications and Progressions
- [1750] Use weight bar accessory to increase resistance
- [1751] Modify adjustable pulley position to vary line of pull
- [1752] Add cable extension kit for taller users
- [1753] User Modifications and Progressions
- [1754] Adjust body position on glideboard for more/less ROM
- [1755] Vary grip positions
- [1756] General Movement Variations
- [1757] Static equilibrium—(cable exercises). From the starting position, bring the glideboard up the rails by using one handle. Without moving the glideboard, move both arms in the opposite directions simultaneously.
- [1758] Unilateral—From the starting position, use one hand while the opposite arm remains static. Return with control to the starting position.
- [1759] Trainer Tips
- [1760] Place hand(s) on glideboard to assist or resist the movement
- [1761] Provide cues to assist in body alignment during plank exercises
- [1762] Safety
- [1763] Maintain neutral wrist, shoulder, spinal and pelvic alignment
- [1764] Move in a controlled motion throughout the entire exercise
- [1765] Ensure client demonstrates proficiency of a motion before performing plyometric variations
- [1766] All movements should be pain free
- [1767] Strength, Mobility and Awareness (SMA)
- [1768] Strength
- [1769] Regression
- [1770] Trainer assists glideboard movement
- [1771] Lower the incline
- [1772] Unilateral handles separated (cable exercises)
- [1773] Progression
- [1774] Add weight to the glideboard
- [1775] Trainer adds resistance to glideboard movement
- [1776] Raise the incline
- [1777] Use both handles in one hand (cable exercise)
- [1778] Unilateral (Pull Ups)
- [1779] Mobility
- [1780] Regression
- [1781] Reduce ROM
- [1782] Self-spot with feet on floor
- [1783] Trainer spot glideboard during end ROM
- [1784] Progression
- [1785] Modify adjustable pulley position to increase ROM
- [1786] Position the body on the glideboard to maximize available ROM
- [1787] Perform unilaterally to increase the available ROM
- [1788] Awareness
- [1789] Regression
- [1790] Work through a fixed or partial ROM
- [1791] Predictable tempos
- [1792] Raise the incline
- [1793] Raise adjustable glideboard
- [1794] Progression
- [1795] Allow the participant to have free ROM
- [1796] Lower the incline
- [1797] Suggested body position cues
- [1798] Unpredictable tempos
- [1799] Closed eyes
1. Plank Exercise
- [1800] Prime Movers
- [1801] The static plank exercise has no primary movers but requires global stabilization of the kinetic chain spanning from the bases of support. As movement is added to the plank position either by shifting the glideboard along the rails or by driving a body part in space, the objective remains to maintain proximal stability between the bases of support.
- [1802] Equipment Settings
- [1803] Folding platform—removed
- [1804] Center pulley—stored behind tower
- [1805] Pulley locator clamps—N/A
- [1806] Tower height—low to high level (low incline increases intensity)
- [1807] Starting Position for Plank Exercise:
- [1808] Disconnect the pulley from the glideboard and stow the handles. Remove the folding platform or squat stand. With the glideboard at the bottom of the rails, face the tower and kneel on the lower part of the glideboard. Place the forearms toward the top of the glideboard with

palms facing in. Raise the knees off the glideboard and align the neck, shoulders, hips and legs into a level plank position. Press into the forearms to keep the shoulders in a neutral position. The glideboard can remain at the bottom in the “closed position” or shifted up the rails to the more advanced “open position.”

- [1809] Maintain the shoulders above the elbows for the static plank.
- [1810] Position Variations
 - [1811] Kneeling
 - [1812] Open glideboard (glideboard slid up incline)
 - [1813] Extended arms (push up position)
 - [1814] Extended hip (one leg raised)
 - [1815] Staggered hands—gripping opposite sides of glideboard at offset hand positions
- [1816] Movement Variations
 - [1817] Controlled movements can be used to challenge proximal stability. Maintain the spine in a neutral position throughout each distal movement
 - [1818] Shift glideboard up and own rails with forearms
 - [1819] Shift glideboard up and own rails with extended arms
 - [1820] Plank with knee tuck and straighten the legs while raising glideboard/user support platform.

2. Pike Exercise

- [1821] Prime Movers
 - [1822] Iliopsoas, tensor fasciae latae, pectineus
- [1823] Equipment Settings
 - [1824] Folding platform—removed
 - [1825] Center pulley—stored behind tower
 - [1826] Pulley locator clamps—N/A
 - [1827] Tower height—low to high level (low incline increases intensity)
- [1828] Starting Position for Pike Exercise:
 - [1829] Disconnect the pulley from the glideboard and stow the handles. Remove the folding platform or squat stand. With the glideboard at the bottom of the rails, face the tower and kneel on the lower part of the glideboard. Place the forearms on the glideboard in front of the knees with hands clasped together. Maintaining a neutral spine position, raise the knees and slowly press the glideboard up the rails. Align the neck, shoulders, hips and legs into a level plank position with the shoulders over the elbows. Lightly press into the forearms to keep the shoulders in a neutral position.
- [1830] Position Variations
 - [1831] Extended arms (push-up position)
 - [1832] Open glideboard (glideboard slid up incline)
- [1833] Movement Description
 - [1834] Maintaining a neutral spine position, press the balls of the feet into the floor to flex the hips up into a pike position. Maintain the shoulders above the elbows and slowly move the glideboard back to the starting position.
 - [1835] Contract the abdominal muscles to stabilize the torso throughout the movement
- [1836] Movement Variations
 - [1837] Extended arms (push-up position)

3. Push-Up Exercise

- [1838] Prime Movers
 - [1839] Triceps, pectoral group, deltoids

- [1840] Equipment Settings
 - [1841] Folding platform—removed
 - [1842] Center pulley—stored behind tower
 - [1843] Pulley locator clamps—N/A
 - [1844] Tower height—low to high level (low incline increases intensity)
 - [1845] Starting Position for Push-Up Exercise:
 - [1846] Disconnect the pulley from the glideboard and stow the handles. Remove the folding platform. Stand at the lower rail base facing the tower. Place both hands halfway up the glideboard toward the sides with the fingers wrapped around the sides. Push the glideboard up the rails until the arms are perpendicular to the rails. Align the neck, shoulders, hips and legs into a level plank position. The glideboard can remain at the bottom in the “closed position” or shifted up to the rails to the more advanced “open position.”
 - [1847] Position Variations
 - [1848] Kneeling
 - [1849] Closed glideboard
 - [1850] Staggered hands
 - [1851] Movement Description
 - [1852] Maintaining a stable trunk and neutral spine position, lower the body toward the glideboard by bending the elbows. Before the chest contacts the glideboard, push against the glideboard until the arms are nearly straight. Glideboard should not move during the exercise.
 - [1853] Contract the abdominal muscles to stabilize the torso throughout the movement
 - [1854] Movement Variations
 - [1855] Extended hips
- ## 4. Sprint Start
- [1856] Prime Movers
 - [1857] Quadriceps, gluteal group, hamstrings, gastrocnemius, soleus
 - [1858] Equipment Settings
 - [1859] Folding platform—removed
 - [1860] Center pulley—stored behind tower
 - [1861] Pulley locator clamps—N/A
 - [1862] Tower height—low to high level
 - [1863] Starting Position for Sprint Start:
 - [1864] Disconnect the pulley from the glideboard and stow the handles. Remove the folding platform. With the glideboard at the bottom of the rails, face the tower and kneel on the lower part of the glideboard. Place the forearms toward the top of the glideboard with palms facing down. Reposition the ball of the active foot on the outside lower rail base and set the spine into a neutral position. Press the active foot against the lower rail base to move the glideboard up the rails.
 - [1865] Position Variations
 - [1866] Elevated knee
 - [1867] Use squat stand (feet at higher elevation)
 - [1868] Staggered hands (as described above)
 - [1869] Movement Description
 - [1870] Maintaining a neutral spine and the shoulders positioned over the elbows, lower the glideboard down the rails until a light stretch is felt in the hips. Press the foot into the rail base to bring the glideboard up the rails.
 - [1871] Plyometric Sprint Start—use caution when performing this exercise. Start exercise with light jumping until client is comfortable with landing position.

- [1872] With one knee on the glideboard, push forcefully against the base, sliding up the rails in a jumping manner. Land softly on the lower rail base and explode back up the rails.
- [1873] Movement Variations
- [1874] Place hands on the outside of the glideboard with arms extended
- [1875] Plyometric sprint start
- [1876] Plyometric sprit start with squat stand
5. Pull-Up Exercise
- [1877] Prime Movers
- [1878] Latissimus dorsi, teres major, rhomboids, biceps, brachialis, brachioradialis
- [1879] Equipment Settings
- [1880] Tower height—mid to high level
- [1881] LAT bars—lowered
- [1882] Center pulley—stored behind tower
- [1883] Pulley locator clamps—N/A
- [1884] Optional Accessories
- [1885] 3 grip pull-up bar 20 (FIG. 8H)
- [1886] Starting Position for Pull-Up Exercise:
- [1887] Disconnect the pulley from the glideboard and stow the handles. Lower the LAT bars into the pull-up position (refer to page 14 for LAT bar positioning instruction). Facing the tower, straddle the rails and push the glideboard halfway up the incline. Lie prone with the chest positioned near the top edge of the glideboard and grasp the LAT bars, palms facing down. With a strong grip, slowly bring the legs onto the glideboard.
- [1888] Position Variations
- [1889] Knees flexed
- [1890] Movement Description
- [1891] Keeping the chest in contact with the glideboard, pull the elbows toward the sides of the torso until hands are level with shoulders. Slowly control the glideboard down the rails back to the starting position.
- [1892] Maintain the neck in a neutral position throughout the exercise.
- [1893] Lead movement with the elbows, keeping forearms parallel to the torso throughout the movement.
- [1894] Movement Variations
- [1895] Tempo variations
- [1896] Unilateral
- [1897] Plyometric Pull-Up—Advanced exercise—use caution and strict movement control) pull forcefully on the LAT bars and momentarily release the LAT bars at the top of the motion. Grasp the LAT bars and decelerate the glideboard down the rails in a controlled manner.
- [1898] Safety Aspects
- [1899] Avoid bouncing at the bottom range of motion
- [1900] Avoid excessive shoulder elevation during the exercise
6. Swimmer Exercise
- [1901] Prime Movers
- [1902] Latissimus dorsi teres major, triceps (long head)
- [1903] Equipment Settings
- [1904] Folding platform—removed
- [1905] Center pulley—attached to glideboard
- [1906] Pulley locator clamps—low to mid inner position
- [1907] Tower height—low to high level
- [1908] Starting Position for Swimmer Exercise
- [1909] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the glideboard and anchor the handles toward the top edge. Lie prone with the chest near the top edge of the glideboard. With tension in the cables, slowly bring the legs onto the glideboard. Knees can be flexed or extended. Hands reach overhead toward the pulleys with palms facing down.
- [1910] Movement Description
- [1911] Maintaining a slight bend in the elbows, bring one handle down and back in an arc motion toward the side of the hip. Slowly bring the hand back to the starting position. Alternate sides or repeat with same arm.
- [1912] Keep the head in line with spine throughout the exercise.
- [1913] Contract the abdominal muscles to stabilize the torso throughout the movement
- [1914] Movement Variations
- [1915] Static equilibrium
- [1916] Integrate trunk rotation into the movement by elevating the active shoulder and bending the elbow at the top of the movement. Similar to a freestyle stroke.
7. Prone Reverse Fly with Back Extension
- [1917] Prime Movers
- [1918] Erector spinae, levator scapula, deltoids, trapezius rhomboids, infraspinatus
- [1919] Equipment Settings
- [1920] Folding platform—removed
- [1921] Center pulley—attached to glideboard
- [1922] Pulley locator clamps—low to mid inner position
- [1923] Tower height—low to mid level
- [1924] Starting Position for Prone Reverse Fly:
- [1925] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the glideboard and anchor the handles toward the top edge. Lie prone with the chest near the top edge of the glideboard. With tension in the cables, slowly brig the legs onto the glideboard. Knees can be flexed or extended. Hands reach overhead toward the pulleys with thumbs facing the rails.
- [1926] Movement Description
- [1927] Maintaining a slight bend in the elbows, press the handles out and back, parallel to the sides of the torso. Slightly raise the head and upper chest off the glideboard toward the top of the movement. Maintain tension in the cables and slowly return with control back to the starting position.
- [1928] Lead the motion with the hands
- [1929] Retract the shoulders at the top of the motion
- [1930] Maintain neutral wrists
- [1931] Discontinue the exercise is pain occurs in the lower back or shoulders
- [1932] Movement Variations
- [1933] Neutral grip
8. Prone Biceps Curl
- [1934] Prime Movers
- [1935] Biceps, Brachialis
- [1936] Equipment Settings
- [1937] Folding platform—removed (optional)
- [1938] Center pulley—attached to glideboard
- [1939] Pulley locator clamps—low to mid inner position
- [1940] Tower height—low to mid level
- [1941] Optional Accessories
- [1942] Weight bar

[1943] Starting Position for Prone Biceps Curl:

[1944] Grasp handles and pull the glideboard halfway up the rails. Facing the tower, straddle the glideboard and anchor the handles toward the top edge. Lie prone with the chest positioned on the top half of the glideboard. With palms facing up, place the elbows toward top of the glideboard with hands reaching toward the pulleys. Knees can be flexed or extended.

[1945] Movement Description

[1946] With neutral wrists and elbows resting on the glideboard, contract the biceps to pull the handles up toward the shoulders. Maintain tension in the cables and slowly return with control back to the starting position.

[1947] Focus on maintaining the elbow positions on the glideboard

[1948] Keep a slight bend in the elbows to protect the joint and maintain the load on the biceps muscles

[1949] Movement Variations

[1950] Unilateral

[1951] Static equilibrium

9. Scunch (Jack Knife)

[1952] Prime Movers

[1953] Iliopsoas Sartorius, pectineus, tensor fascia latae, (abdominals, obliques)

[1954] Equipment Settings

[1955] SCRUNCH® accessory or platform 22 (FIG. 8I)

[1956] Tower height—low to mid level

[1957] Center pulley—stored behind tower

[1958] Pulley locator clamps—N/A

[1959] Starting Position for Jack Knife:

[1960] Attach the SCRUNCH® platform 22 to the top of the rails. Facing the tower, kneel toward the top of the glideboard. Grasp the cross bar 22A on the outside with palms facing in and rest the elbows on the padded surface. Maintaining a neutral spine, position the shoulders directly over the elbows. Press elbows into padding 22B to maintain a neutral shoulder position.

[1961] Movement Description

[1962] Maintaining a strong grip with shoulders positioned over the elbows, bring the glideboard up the rails by pulling the knees toward the elbows. Contract the abdominals to flex the spine toward the top of the movement. With the abdominals contracted to protect the spine, slowly lower the glideboard down the rails back to a neutral spine position.

[1963] Discontinue exercise if pain occurs in lower back or shoulders

[1964] Maintain strict control of motion throughout the exercise

[1965] Movement Variations

[1966] Jack Knife—extended legs; legs extended and raised from glideboard

[1967] Kneeling Jack—knife single leg

[1968] Kneeling oblique jack knife

10. Knee Extension with Leg Pulley

[1969] Prime Movers

[1970] Quadriceps

[1971] Equipment Settings

[1972] Leg pulley system—connected to tower pulley latch; mid to high level

[1973] Center pulley—stored behind tower

[1974] Pulley locator clamps—N/A

[1975] Tower height—low to mid level

[1976] Optional Accessories

[1977] Weight bar

[1978] Starting Position for Knee Extension

[1979] Attach the leg pulley system to the glideboard. Secure the ankle harness around the active leg with the cable attached at the back of the heel. Push glideboard halfway up rails and lie face down with head toward the tower. Rest hands on the top end of the glideboard.

[1980] Position Variations

[1981] Foot slightly turned out (use caution)

[1982] Movement Description

[1983] With upper legs lying flat on the glideboard, bend the knee of the active leg to form a 90° angle. Using the quadriceps muscles, extend the active knee. Lower the glideboard back down the rails by returning the leg back to a 90° angle.

[1984] Movement Variations

[1985] Integrate a hip flexor stretch into the movement by slightly raising the active knee off glideboard at the bottom of the motion (knee at 90°)

IX. Exercises in Inverted Prone Position (FIG. 28)

[1986] Exercises

[1987] Inverted Plank

[1988] Inverted Pike/Tuck

[1989] Inverted Push-up

[1990] Overhead Press

[1991] Inverted Scunch

[1992] Description

[1993] This position provides training and conditioning for the shoulders, arms and trunk. With the inverted body position, the degree of incline will inversely affect the strength and stability components of the plank and push up exercises. A lower incline emphasizes proximal stability whereas a higher incline emphasizes upper body strength.

[1994] Refrain from using this position with clients classified as hypertensive or immediately following cardiovascular exercise.

[1995] Equipment Considerations

[1996] Detach the center pulley and store behind tower

[1997] Adjust tower level to appropriate incline

[1998] Remove folding platform

[1999] Attach press bar to lower rails for specific exercises

[2000] Attach SCRUNCH® accessory to lower rails for specific exercises

[2001] Basic Starting Position: Inverted Prone with Press Bar

[2002] Attach the press bar to the rail base. With the glideboard closed, come to a kneeling position, facing away from the tower. Grasp the press bar and lower the torso down to the glideboard. Chest should be positioned near the bottom. Knees can be flexed or extended with the feet positioned on the outside of the rails.

[2003] Basic Starting Position Push-Up Position (without Press Bar)

[2004] Push up position

[2005] Remove the folding platform. With the glideboard closed, come to a kneeling position, facing away from the tower. Place both hands on the floor below the lower rail base. Bring the arms into a vertical position with hands under the shoulders. Press the glideboard up the rails with the feet until the entire body is aligned. The

- glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2006] Basic Starting Position Plank with Press Bar
- [2007] Kneeling
- [2008] With the press bar 12 attached and glideboard closed, come to a kneeling position, facing away from the tower. Place both hands on the press bar and bring the arms into a vertical position with hands under the shoulders.
- [2009] Basic Starting Position Plan with Platform or Accessory 22
- [2010] Plank with platform 22 (FIG. 8I)
- [2011] With the accessory or platform 22 attached to the lower end of the incline, and glideboard closed, come to a kneeling position facing away from the tower. Grasp the bar and place the forearms on the pad 22B. Bring the upper arms into a vertical position with elbows under the shoulders.
- [2012] Alternate Starting Positions
- [2013] Open glideboard (raised up incline)
- [2014] Extended legs and open glideboard (legs and torso raised, feet alone contact glideboard)
- [2015] Basic Starting Position Plank
- [2016] Remove the folding platform. With the glideboard closed, come to a kneeling position, facing away from the tower. Place both forearms on the floor below the lower rail base, hands clasped together. The glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2017] Equipment Modifications and Progressions
- [2018] Increase incline for greater upper body focus
- [2019] Decrease incline for greater core focus
- [2020] Use weight bar accessory to increase resistance
- [2021] User Modifications and Progressions
- [2022] Adjust body position on glideboard for more/less ROM and load
- [2023] Vary grip or hand positions
- [2024] General Movement Variations
- [2025] Unilateral—from the starting position, use one hand while the opposite arm remains static. Return with control to the starting position.
- [2026] Plyometric variations—upper body exercises
- [2027] Trainer Tips
- [2028] Provide cues to assist in body alignment during plank exercises
- [2029] Safety
- [2030] Maintain neutral wrist, shoulder, spinal and pelvic alignment
- [2031] Move in a controlled motion throughout the entire exercise
- [2032] Maintain stability of the core in dynamic movements
- [2033] All movements should be pain free
- [2034] Strength, Mobility and Awareness (SMA)
- [2035] Strength
- [2036] Regression
- [2037] Trainer assists glideboard movement
- [2038] Shorten the lever length
- [2039] Lower the incline
- [2040] Progression
- [2041] Add weight to the glideboard
- [2042] Lengthen the levers
- [2043] Trainer adds resistance to glideboard movement
- [2044] Raise the incline
- [2045] Unilateral
- [2046] Mobility
- [2047] Regression
- [2048] Reduce ROM
- [2049] Position the body higher on the glideboard to minimize the ROM
- [2050] Modify adjustable pulley position to decrease ROM (cable exercises)
- [2051] Trainer spot glideboard during end ROM
- [2052] Progression
- [2053] Work through a full ROM
- [2054] Modify adjustable pulley position to increase ROM (cable exercises)
- [2055] Position the body on the glideboard to maximize available ROM
- [2056] Awareness
- [2057] Regression
- [2058] Work through a fixed or partial ROM
- [2059] Predictable tempos
- [2060] Raise the incline
- [2061] Increase contact surface area with the glideboard
- [2062] Progression
- [2063] Allow the participant to have free ROM
- [2064] Lower the incline
- [2065] Suggested body position cues
- [2066] Unpredictable tempos
- [2067] Reduce contact surface area with glideboard
1. Inverted Plank
- [2068] This exercise can be performed with the hands or forearms positioned on the platform 22 floor below the lower rail base. Towel or padding are recommended underneath forearms when performing exercises without platform or accessory 22.
- [2069] Prime Movers
- [2070] The static plank exercise has no primary movers but requires global stabilization of the kinetic chain spanning from the bases of support. As movement is added to the plank position, either by shifting the glideboard along the rails or by driving a body part in space, the objective remains to maintain proximal stability between the bases of support.
- [2071] Equipment Settings
- [2072] Folding platform—removed
- [2073] Center pulley—stored behind tower
- [2074] Pulley locator clamps—N/A
- [2075] Tower height—low to mid level
- [2076] Note: Lower incline requires more stability less upper body strength; Higher incline requires more upper body strength, less stability
- [2077] Optional Accessories
- [2078] Press bar 12—attached to lower rails
- [2079] SCRUNCH® accessory 22—attached to lower rails
- [2080] Starting Position for Inverted Plank:
- [2081] With the glideboard closed, come to a kneeling position, facing away from the tower. Place both forearms on the floor below the lower rail base, hands clasped together. Bring the upper arms into a vertical position with elbows under the shoulders. Elevate the hips and knees so the entire body is aligned. The glide-

- board can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2082] Starting Position with SCRUNCH® Accessory 22
- [2083] With the glideboard closed, come to a kneeling position facing away from the tower. Grasp the SCRUNCH® Accessory bar and place the forearms on the pad. Bring the upper arms into a vertical position with elbows under the shoulders. Elevate the hips and knees so the entire body is aligned. The glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2084] Position Variations
- [2085] Closed glideboard on knees
- [2086] Unilateral
- [2087] Movement Variations
- [2088] N/A
2. Inverted Pike/Tuck
- [2089] These exercises can be performed with the press bar 12 or with the hands or forearms positioned on the floor below the lower rail base. Towels or padding are recommended underneath the forearms.
- [2090] Pike (with or without press bar)
- [2091] Tuck (with or without press bar)
- [2092] Prime Movers
- [2093] Iliopsoas, tensor fasciae latae, pectineus
- [2094] Equipment Settings
- [2095] Folding platform—removed
- [2096] Center pulley—stored behind tower
- [2097] Pulley locator clamps—NA
- [2098] Tower height—low to mid level (low incline increases stability challenge)
- [2099] Optional Accessories
- [2100] Press bar—attached to lower rail
- [2101] SCRUNCH® Accessory—attached to lower rail
- [2102] Starting Position with Press Bar
- [2103] With the press bar 12 attached and glideboard closed, come to a kneeling position, facing away from the tower. Place both hands on the press bar and bring the arms into a vertical position with hands under the shoulders. The glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2104] Starting Position with Hands on Floor
- [2105] With the glideboard closed, come to a kneeling position, facing away from the tower. Place both hands on the floor below the lower rails base. Bring the arms into a vertical position with hands under the shoulders. Press the glideboard up the rails with the feet until the entire body is aligned. The glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2106] Position Variations
- [2107] Single leg
- [2108] Pike
- [2109] Movement Description (Pike)
- [2110] Maintaining a neutral spine position, press the balls of the feet into the glideboard to flex the hips up into a pike position. With shoulders directly above or slightly behind the hands, slowly control the glideboard back to the starting position.
- [2111] Movement Variations
- [2112] Move into a tuck position (knees bent and engaging glideboard) instead of pike position.
- [2113] Tuck with elevated knees (not engaging glideboard)
- [2114] Single leg tuck
- [2115] Oblique pike
3. Inverted Push-Up
- [2116] This exercise can be performed with press bar 12 or without press bar, with the hands positioned on the floor below the lower rail base.
- [2117] Prime Movers
- [2118] Pectoral group, triceps, deltoids
- [2119] Equipment Settings
- [2120] Folding platform—removed
- [2121] Center pulley—stored behind tower
- [2122] Pulley locator clamp—N/A
- [2123] Tower height—low to mid level
- [2124] Optional Accessories
- [2125] Press bar 12 attached to lower rails
- [2126] Starting Position for Inverted Push-Up:
- [2127] Remove the folding platform. With the glideboard closed, come to a kneeling position, facing away from the tower. Place both hands on the floor below the lower rail base. Bring the arms into a vertical position with hands under the shoulders. Press the glideboard up the rails with the feet until the entire body is aligned. The glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2128] Position Variations
- [2129] Kneeling
- [2130] Single leg
- [2131] Wide hands
- [2132] Narrow hands
- [2133] Movement Description
- [2134] Maintaining a stable trunk and neutral spine position, slowly lower the body by bending the elbows and push up until the arms are nearly straight. Glideboard should not move during the exercise.
4. Overhead Press
- [2135] This exercise can be performed with press bar 12 or with the hands positioned on outside rail feet.
- [2136] Prime Movers
- [2137] Deltoids, triceps, pectorals major
- [2138] Equipment Settings
- [2139] Folding platform—removed
- [2140] Center pulley—stored behind tower
- [2141] Pulley locator clamps—N/A
- [2142] Tower height—low to mid level
- [2143] Optional Accessories
- [2144] Press bar 12 attached to lower rails (as in FIG. 28)
- [2145] Starting Position for Overhead Press:
- [2146] Attach the press bar to the rail base. With the glideboard closed, come to a kneeling position, facing away from the tower. Grasp the press bar and slowly lower the torso down as the glideboard moves up the rails. Position the chest near the bottom of the glideboard. Elbows are slightly bent. Knees can be flexed or extended with the feet positioned on the outside of the rails.
- [2147] Movement Description
- [2148] Keeping the chest in contact with the glideboard, slowly bend the elbows to lower the glideboard down the

rails until a comfortable stretch is felt in the shoulders. Press the glideboard up the rails until the arms are nearly straight.

- [2149] If the glideboard bottoms out, shift the body position toward the lower rail base.
- [2150] Maintain the neck in a neutral position throughout the exercise.
- [2151] Avoid excessive wrist extension during the exercise.
- [2152] Movement Variations
 - [2153] Unilateral
 - [2154] Plyometric overhead press (release bar 12 while pushing up)

5. Inverted Scrunch

- [2155] Prime Movers
 - [2156] Iliopsoas, Sartorius, pectineus, tensor fasciae latae, (abdominals, obliques)
- [2157] Equipment Settings
 - [2158] SCRUNCH® Accessory or platform 22—attached
 - [2159] Folding platform—removed
 - [2160] Center pulley—stored behind tower
 - [2161] Pulley locator clamps—N/A
 - [2162] Tower height—low to mid level (low incline increase stability challenge)
- [2163] Starting Position
 - [2164] With the platform 22 attached and glideboard closed, come to a kneeling position facing away from the tower. Grasp the handle bar 22A and place the forearms on the pads 22B. Bring the upper arms into a vertical position with elbows under the shoulders. Elevate the knees and press the glideboard up the rails with the feet until body is aligned in a plank position.
- [2165] Position Variations
 - [2166] Knees diagonal (rotate to one side)
 - [2167] Feet diagonal (rotate to one side)
- [2168] Movement Description
 - [2169] Maintaining shoulders positioned over the elbows and knees slightly elevated, press the feet into the glideboard and tuck the knees in toward the chest. With the abdominals contracted to protect the spine, slowly press the glideboard back up the rails until legs are extended.
- [2170] Movement Variations
 - [2171] Oblique tuck (with feet diagonal)
 - [2172] Oblique knee tuck (knees/lower legs diagonal)
 - [2173] Single leg extended—knee tuck

X. Exercises in Upright Side Lying Position (FIG. 29)

- [2174] Exercises
 - [2175] Side Plank
 - [2176] Side Lying Squat
 - [2177] Hip Adduction with Leg Pulley
- [2178] Description
 - [2179] This position provides training and conditioning in lateral position for the shoulders, legs and trunk. Depending on the exercise selected in the side lying position the degree of incline on the rails will affect the intensity and focus of the exercise. With the angle of the rails low there is a higher degree of core focus and range

of motion for the hip adduction. In side lying squats an increased angle of the rails will increase the exercise intensity.

- [2180] Equipment Considerations
 - [2181] Adjust tower level to appropriate incline
 - [2182] Remove folding platform for side plank
 - [2183] Leg pulley system with ankle harness—attached to tower
- [2184] Basic Starting Position Side Plank with Knees Bent (See FIG. 29)
 - [2185] Remove the entire folding platform. Disconnect the pulleys from the glideboard at bottom of rails, come to a side lying position on the glideboard with the head toward the tower. The glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”
- [2186] Basic Starting Position Side Lying Squat with Squat Stand
 - [2187] Upright side lying with squat stand
 - [2188] Attach the folding platform squat stands in FIG. 1. Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge facing away from the tower. Place the feet on the squat stand with feet positioned shoulder-width apart. Slowly lie back, ensuring the head is supported fully. Walk the feet to one side of the squat stand and roll on to one side. Place the top foot on the squat stand toward the front edge. Bring the bottom leg forward with a bent or extended knee.
- [2189] Basic Starting Position: Hip Adduction with Leg Pulley System
 - [2190] Upright Side Lying with Leg Pulley System
 - [2191] Attach the leg pulley system with ankle harness to the glideboard. Pull the glideboard halfway up the rails. Straddle the glideboard and sit at the bottom edge. Place inactive leg on the squat stand and press up. Attach the ankle harness to active leg. Lie back, ensuring head is supported fully. Straighten the active leg toward the squat stand. Keeping tension in the cable, bend the inactive knee and position the lower leg across the bottom edge of the glideboard. Slowly turn to the side so the active leg is stacked on top. Rest the head on the bottom arm.
- [2192] Equipment Modifications and Progressions
 - [2193] Adjust body position on glideboard for more/less ROM and load
- [2194] General Movement Variations
 - [2195] Plyometric variations—lower body exercises
 - [2196] Directional variations—leg pulley exercises
- [2197] Trainer Tips
 - [2198] Assist the client into the Leg pulley system by attaching the snap hood to the ankle harness after the client is in the side lying position. Use hands or foot to stabilize the glideboard until client is comfortable with the movement.
- [2199] Safety
 - [2200] Ensure plyostrut knob is securely tightened
 - [2201] Move in a controlled motion throughout the entire exercise
 - [2202] Maintain neutral shoulder, spinal and pelvic alignment
 - [2203] Maintain stability of the core in dynamic movements
 - [2204] All movements should be pain free

- [2205] Strength, Mobility and Awareness (SMA)
 [2206] Strength
 [2207] Regression
 [2208] Use the squat stand or the cables for assistance
 [2209] Shorten the lever length
 [2210] Trainer assists glideboard movement
 [2211] Lower the incline
 [2212] Progression
 [2213] Add weight to the glideboard
 [2214] Lengthen the lever
 [2215] Trainer adds resistance to glideboard movement
 [2216] Raise the incline
 [2217] Mobility
 [2218] Regression
 [2219] Reduce ROM
 [2220] Adjust the foot on the squat stand, i.e., squats
 [2221] Modify adjustable pulley position to decrease ROM, i.e., hip adduction
 [2222] Trainer spot glideboard during end ROM
 [2223] Progression
 [2224] Modify adjustable pulley position to increase ROM
 [2225] Adjust the foot on the squat stand, i.e., squats
 [2226] Modify adjustable pulley position to increase ROM, i.e., hip adduction
 [2227] Position the body on the glideboard to maximize available ROM
 [2228] Perform unilaterally to increase the available ROM
 [2229] Awareness
 [2230] Regression
 [2231] Position the participant(s) in neutral spine; focus on alignment
 [2232] Work through a fixed or partial ROM
 [2233] Predictable tempos
 [2234] Raise the incline
 [2235] Adjustable glideboard on a flat level
 [2236] Progression
 [2237] Allow the participant to have free ROM
 [2238] Unilateral exercise
 [2239] Lower the incline
 [2240] Suggested body position cues
 [2241] Unpredictable tempos
 [2242] Closed eyes

1. Side Plank

- [2243] Prime Movers
 [2244] The static plank exercise has no primary movers but requires global stabilization of the kinetic chain spanning from the bases of support. As movement is added to the plank position, either by shifting the glideboard along the rails or by driving body part in space, the objective remains to maintain proximal stability between the bases of support.
 [2245] Equipment Settings
 [2246] Folding platform—removed
 [2247] Center pulley—stored behind the tower
 [2248] Pulley locator clamps—N/A
 [2249] Tower height—low to high level (low incline increases intensity)
 [2250] Starting Position for Side Plank Exercise:
 [2251] Remove the entire folding platform. Disconnect the pulleys from the glideboard. With the glideboard at

bottom of rails, come to a side lying position on the glideboard with the head toward the tower. The glideboard can remain at the bottom in a “closed position” or up the rails in the “open position.”

- [2252] With the bottom elbow positioned directly under the shoulder, stack the feet and lift the hip straight off the glideboard until body is straight. Top arm rests on the side of the torso.
 [2253] Position Variations
 [2254] Knees bent (as in FIG. 29)
 [2255] Open glideboard with upper leg lift and hand reach (one hand and arm raised straight up)

2. Side Lying Squat

- [2256] Prime Movers
 [2257] Quadriceps, gluteal group, hamstrings
 [2258] Equipment Settings
 [2259] Center pulley—stored behind tower
 [2260] Pulley locator clamps—N/A
 [2261] Tower height—mid to high level
 [2262] Adjustable glideboard—low level
 [2263] Folding platform/squat stand 246 attached
 [2264] Starting Position for Side Lying Squat:
 [2265] Attach the folding platform. Disconnect the pulley from the glideboard and stow handles. Push the glideboard halfway up the rails, straddle the rails and sit at the bottom edge facing away from the tower. Place the feet on the squat stand with feet positioned shoulder-width apart. Slowly lie back, ensuring the head is supported fully. Walk the feet to one side of the squat stand and roll on to one side. Place the top foot on the squat stand toward the front edge. Bring the bottom leg forward with a bent or extended knee.
 [2266] Position Variations
 [2267] Vary foot position
 [2268] Forearm supporting neck
 [2269] Movement Description
 [2270] With a neutral spine position, slowly lower the glideboard by bending the active knee and hip to around 90°. Press the foot into the squat stand to return to the starting position. Ensure the knee track over the foot throughout the movement.
 [2271] Movement Variations
 [2272] Plyometric squat (“jump” off squat stand)
 3. Hip Adduction with Leg Pulley System
 [2273] Prime Movers
 [2274] Hip adductors: adductor magnus gracilias, adductor longus
 [2275] Equipment Settings
 [2276] Folding platform—removed
 [2277] Adjustable glideboard—low to mid level
 [2278] Center pulley—stored behind tower
 [2279] Pulley locator clamps—N/A
 [2280] Tower height—low to mid level
 [2281] Required Accessories
 [2282] Leg Pulley System—connected to tower pulley latch; mid to high level
 [2283] Starting Position for Hip Adduction:
 [2284] Attach the leg pulley system with ankle harness to the glideboard. Pull the glideboard halfway up the rails. Straddle the glideboard and sit at the bottom edge. Place one foot on the rail base and press up. Attach the ankle harness to the active leg. Lie back, ensuring head is fully supported. Straighten the active leg toward the squat

stand. Keeping tension in the cable bend the inactive knee and position the lower leg across the bottom edge of the glideboard. Slowly turn to the side so the active leg is stacked on top. Rest the head on the bottom arm.

[2285] Attach cable to outside ring on ankle harness.

XI. Exercises in Base Standing Position (FIG. 30)

[2286] Exercises

[2287] Lunge

[2288] Description

[2289] This position provides functional stability and balance challenges to the entire body while strengthening and conditioning the lower body. The three base stand options provide unique progressions and modifications to the conventional lunge by using the movable glideboard to emphasize controlled movement. Medicine balls and free weights can be used to increase exercise intensity or target specific movement patterns.

[2290] Equipment Considerations

[2291] Detach the center pulley and store behind tower

[2292] Adjust tower level to appropriate incline

[2293] Remove folding platform

[2294] Basic Starting Position Facing Tower (See FIG. 30)

[2295] Stand behind the lower rail base, facing the tower, place one foot toward the middle of the glideboard.

[2296] Basic Starting Position Facing Lateral

[2297] Lunge—facing lateral

[2298] Stand behind the lower rail base, facing sideways. Place the foot that is closest to the lower rail base on the bottom edge of the glideboard.

[2299] Basic Starting Position Facing Forward

[2300] Lunge—facing forward

[2301] Stand behind the lower rail base, facing away from the tower. Place the ball of one foot on the bottom edge of the glideboard.

[2302] Alternate Starting Positions

[2303] Foot position variations

[2304] Equipment Modifications and Progressions

[2305] Raise incline to reduce balance challenge for lateral and tower facing positions

[2306] Lower incline to challenge balance and stability

[2307] User Modifications and Progressions

[2308] Adjust foot placement on glideboard for more or less ROM

[2309] General Movement Variations

[2310] Hand reaches

[2311] Trainer Tips

[2312] Place hand(s) on glideboard to assist or resist the movement

[2313] Safety

[2314] Maintain bodyweight on the grounded leg

[2315] Move in a controlled motion throughout the entire exercise

[2316] All movements should be pain free

[2317] Strength, Mobility and Awareness (SMA)

[2318] Strength

[2319] Regression

[2320] Self-spot with a support, i.e., trainer or stable object

[2321] Raise the incline

[2322] Work through a smaller ROM

[2323] Progression

[2324] Hold an external load, i.e., hand weights, medicine ball

[2325] Lower the incline

[2326] Work through a full or deep ROM

[2327] Mobility

[2328] Regression

[2329] Work through a smaller ROM

[2330] Shorten stance

[2331] Lower heel (on lunges)

[2332] Progression

[2333] Work through a larger ROM

[2334] Widen stance

[2335] Raise heel (on lunges)

[2336] Awareness

[2337] Regression

[2338] Measure off a specific ROM, i.e., put your finger on the rail

[2339] Self-spot, i.e., trainer or stable object

[2340] Raise the incline

[2341] Flex the back knee and preposition the pelvis

[2342] Focus on one non-moving point

[2343] Progression

[2344] Work through a larger ROM without support

[2345] Lower the incline

[2346] Add rotation

[2347] Stay up on the ball of back foot

[2348] Closed eyes

1. Lunge Facing Tower

[2349] Prime Movers

[2350] Quadriceps, gluteal group, hamstrings

[2351] Equipment Settings

[2352] Folding platform—removed

[2353] Center pulley—stored behind tower

[2354] Pulley locator clamps—N/A

[2355] Tower height—low to mid-level (low incline)

[2356] Optional Accessories

[2357] Slide Distance Regulator

[2358] Starting Position for Lunge Facing Tower:

[2359] Stand behind the lower rail base, facing the tower. Place one foot toward the middle of the glideboard (see FIG. 30).

[2360] Position Variations

[2361] Vary foot positions to change exercise emphasis.

[2362] Movement Description

[2363] Push the glideboard up the rails by lunging forward until the leg on the glideboard forms a 90° angle at the knee. Press the foot into the glideboard as the glideboard is returned to the starting position

[2364] Keep the knee positioned over the middle of the foot throughout the movement

[2365] Maintain an upright posture (unless adding hand reaches)

[2366] Maintain a slow tempo during the movement. Raise and lower the glideboard in a controlled manner

[2367] When lunging forward, apply bodyweight to the leading leg. Allow the back knee to bend and the back heel to raise off the ground.

[2368] Use caution during this exercise. Beginners may need a chair or spotting when first performing movement.

[2369] Movement Variations

[2370] Forward hand reach—reach one hand upward while lunging forward

[2371] Overhead hand reach—both arms raised upward

- [2372] Rotational hand reach—rotate arms and torso while lunging
- [2373] Hold ball or hand-weights
2. Lunge Facing Lateral
- [2374] Prime Movers
- [2375] Quadriceps, gluteal group, hamstrings, hip adductors
- [2376] Equipment Settings
- [2377] Folding platform—removed
- [2378] Center pulley—stored behind tower
- [2379] Pulley locator clamps—N/A
- [2380] Tower height—low to mid-level (low incline)
- [2381] Optional Accessories
- [2382] Slide distance regulator
- [2383] Starting Position
- [2384] Stand behind the lower rail base, facing the tower. Place one foot that is closest to the lower rail base on the bottom edge of the glideboard.
- [2385] Position Variations
- [2386] Vary foot positions to change exercise emphasis.
- [2387] Movement Description
- [2388] Push the glideboard up the rails while performing a single leg squat with the stationary leg. Once a mild stretch is felt in the inner of the resting leg, bring the glideboard back down the rails by pressing into the active leg into an upright position.
- [2389] Keep the grounded hip, knee and foot in good alignment with the knee positioned over the foot throughout the movement.
- [2390] Maintain a slow tempo during the movement. Raise and lower the glideboard in a controlled manner
- [2391] Use caution during this exercise. Beginners may need a chair or spotting when first performing movement.
- [2392] Movement Variations
- [2393] Forward hand reach while performing lunge
- [2394] Overhead hand reach while performing lunge
- [2395] Rotational hand reach—rotate while performing lunges
- [2396] Hold ball or hand-weights during lunges
3. Lunge Facing Forward
- [2397] Prime Movers
- [2398] Quadriceps, gluteal group, hamstrings, hip adductors
- [2399] Equipment Settings
- [2400] Folding platform—removed
- [2401] Center pulley—stored behind tower
- [2402] Pulley locator clamps—N/A
- [2403] Tower height—low to mid-level (low incline)
- [2404] Optional Accessories
- [2405] Slide distance regulator
- [2406] Starting Position
- [2407] Stand behind the lower rail base, facing the tower. Place the ball of one foot on the bottom edge of the glideboard.
- [2408] Position Variations
- [2409] Vary foot positions to change exercise emphasis.
- [2410] Movement Description
- [2411] Push the glideboard up the rails while performing a single leg squat with the stationary leg. Move through a comfortable range of motion then press into the stationary foot to return to an upright position.
- [2412] Keep the grounded hip, knee and foot in good alignment with the knee positioned over the foot throughout the movement.
- [2413] Maintain a slow tempo during the movement. Raise and lower the glideboard in a controlled manner
- [2414] Use caution during this exercise. Beginners may need a chair or spotting when first performing movement.
- [2415] Movement Variations
- [2416] Forward hand reach
- [2417] Rotational hand reach
- [2418] Hold ball or hand-weights
- [2419] Exercise routines incorporating the above exercises will now be described. In designing an exercise routine for a single exerciser, a group class, or the like, it is desirable to minimize body position and other transitions to keep the exerciser working and avoid over-training one particular muscle group. Some examples of exercise programming to achieve various exercise objectives are detailed below and illustrated in FIGS. 31 to 37. Group training methods for delivering different workout routines to a large group of individuals, for example in an exercise class environment, may be devised using the adjustable incline exercise devices and basic exercise positions described above.
- [2420] There are a number of variables in performing a series of exercises on adjustable incline devices such as the devices illustrated in FIGS. 1 to 15:
- [2421] 1. Angle of incline—i.e. height of attachment of upper end of rails to tower. The multi-level tower provides incline resistance that is key to providing ideal exercise intensity or exercise resistance based on an individual's muscular ability (see FIGS. 16 to 19).
- [2422] 2. Cable/center pulley attached to glideboard or not attached. The closed chain squat platform with no cable attached allows for partial weight bearing exercises.
- [2423] 3. With cable attached, location of pulleys (inner or outer side, height) on LAT or pulley arms 220B. Adjustable pulley clamp positions accommodate an individual's stature and allow for optimal line of pull to maximize muscular contraction.
- [2424] 4. Attachment of optional accessories (FIGS. 8A to 8I and others).
- [2425] 5. Body position (i.e. any one of the eleven basic positions of FIGS. 20 to 30 and variations of those positions as discussed above). The use of the glideboard allows for a very large number of different possible body positions, facilitating over 200 different exercises depending upon the user's physical capabilities and objectives.
- [2426] 6. Start position of glideboard.
- [2427] 7. Adjustable glideboard 210 raised or lowered.
- [2428] 8. Pulley arms 220B raised or lowered.
- [2429] The following programs have exercise sequences designed for efficiency in body re-position transitions as well as moving from large to small muscle groups, and with minimal or no adjustments of the equipment at transitions.
- [2430] FIG. 31 is a flow diagram illustrating one embodiment of an efficient exercise sequence using the adjustable incline exercise device. This sequence starts at step 500 without the cables attached to the glideboard, i.e. the user does not use the cable handles, and with the user engaging the user

support platform 210 in the upright supine position of FIG. 25 (variations of this position as discussed above may also be used if desired for a higher level of difficulty). The upper end of the incline 140, 150 may first be adjusted to the desired position on tower 120, depending on the level of resistance desired. In this position, the user first performs a series of squat exercises (step 510), and the center pulley is then attached to the glideboard or user support platform (“with cables”) with the user remaining in the upright supine position (step 515). A series of LAT/arm pull exercises and triceps press exercises are then performed (step 520), and the exerciser transitions to engage the user support platform in a seated forward position (Step 525), as seen in FIG. 20. It can be seen that it is relatively easy to move from an upright supine exercise position gripping the cable handles to a seated forward position with cables, simply by sitting up and sliding back up the board until the feet rest on the lower end of the board. The user then performs a series of chest press exercises (Step 530), which may be varied as discussed above in connection with the seated forward exercise position. The user then transitions to engage the user support platform in a seated backward position as illustrated in FIG. 23 (Step 535), which is again a relatively simple transition simply requiring rotation through 180 degrees from the position of FIG. 20 to the position of FIG. 23. A series of rowing and biceps curl exercises are then performed (Step 540). The next transition is from seated backward to seated lateral, one side, as illustrated in FIG. 21 (Step 545). An alternative to this position is kneeling lateral, which is not illustrated but is equivalent to the kneeling backward position of FIG. 24, but kneeling facing to one side rather than facing the tower. This increases exercise difficulty. The user then performs a series of torso rotation exercises (step 550). The next transition is to seated lateral, opposite side (i.e. facing in the opposite direction to FIG. 21), or alternatively kneeling lateral, opposite side (step 555), and a repeat of the series of torso rotation exercises (step 560).

[2431] The next transition involves the user engaging the sliding user support platform in an inverted supine position, as seen in FIG. 26 (step 565). This position is also relatively easy to adopt from a seated lateral position as in FIG. 21, simply by rotating the body to face the tower and lying back on the platform as in FIG. 26 with the head engaging the lower end of the platform or glideboard and the feet engaging the foot support 700 (which can be raised before rotating into the inverted supine position). The user then carries out a series of abdominal crunch and hamstring curl exercises (step 570). The next body position transition is into an upright prone position as seen in FIG. 27 (step 575). After removing the squat stand from the lower end of the incline and attaching the pull up bar, the user engages the user support platform in the upright prone position, and then carries out a series of pull up exercises (step 580). They then move back into the upright supine position of FIG. 25 (step 585) and carry out a series of stretching and cool down exercises (step 590).

[2432] A flow diagram illustrating an example of a more advanced exercise sequence is illustrated in FIG. 32. Some of the body position transition and exercise steps are the same as in FIG. 31, and like reference numbers are used for like steps (variations of the body positions and exercises as discussed above in connection with the relevant body positions may also be used in alternative embodiments). As in the previous example, and as seen in FIG. 32, the user starts by engaging the user support platform in an upright supine position, without use of cables attached to the platform (step 500), and then

carries out a series of squat exercises (step 510). At this point, rather than transitioning directly to upright supine with cables, the user engages the platform in an upright side lying position, facing to one side (step 595), as in FIG. 28 but with the squat stand 246 attached to the lower end of the platform and the user engaging the squat stand with their feet. This simply involves rolling to one side from the position shown in FIG. 25. A series of side lying squat exercises are then performed (step 600), and the user then rolls to the opposite side (step 605), and carries out the same series of side lying squat exercises (step 610). The user then moves to engage the user support platform in the upright supine position of FIG. 25 with cables attached (step 515), and carries out a series of LAT pulldown and arm pullover exercises (step 615), followed by triceps press exercises (step 620). The next transition is from upright supine to seated forward (step 525), followed by a series of chest press exercises (530). The user then transitions to a seated or kneeling lateral position, facing a first side (step 545), as in the example of FIG. 31. Rather than just performing torso rotation exercises, as in FIG. 31, the user in this case performs torso rotation, chest fly, and biceps curl exercises (step 625). They then transition to seated or kneeling lateral facing in a second, opposite direction (step 555), and again perform a sequence of torso rotation, chest fly, and biceps curl exercises (step 630). The next transition is into a seated backward position as in FIG. 23 (step 635), after which the user performs a series of row exercises, biceps curl exercises, and hip abduction exercises (step 640). The user then engages the user support platform in the inverted supine position (step 645) and performs a series of crunch and curl exercises (step 650, FIG. 32). The user then transitions from the inverted supine position to the upright prone position, as in step 575 of FIG. 31, and carries out a series of pull-up exercises (step 580). As in the previous embodiment, the user then moves their body back to the upright supine position (step 585) before carrying out a series of cool down and stretch exercises (step 590).

[2433] FIG. 33 is a table illustrating some exemplary parameters for the exercise routine illustrated in FIG. 31. This exercise sequence is suitable for a fundamental strength exercise group routine. FIG. 34 is a table illustrating some exemplary parameters for an exercise routine according to the flow diagram of FIG. 32. This exercise sequence is suitable for a more advanced strength or strength plus exercise routine. Below are some specific examples of sets, repetitions, tempo and counts for fundamental strength (FIG. 31, 33) and strength plus (FIG. 32, FIG. 34) exercise routines.

[2434] The following examples of high-intensity muscular endurance exercises are designed to provide time-efficient, effective full-body workouts. The routines focus on muscle isolation and integration and challenging muscular strength and endurance while including unique core and stretching exercises. The wide variety of exercises and the freedom of a dynamic pulley system allow for enhanced muscle development, core integration and increased joint range of motion. The use of bodyweight as the resistive factor against gravity produces an individualized workout environment that can progressively increase in intensity as strength and performance improves.

[2435] Workouts are developed around the eleven body positions of FIGS. 20 to 30 on the incline bodyweight trainer glideboard in order to maximize body positioning. This organization allows for quick transitions between exercises, which focus on a variety of muscle groups.

[2436] The selection and sequencing of exercises allows for maximum time on the incline bodyweight trainer while reducing or minimizing transitions, i.e. time spent modifying body position and incline height (resistance). Individuals can change incline height easily to best suit their physical capabilities at any time during the program.

[2437] The pulley system allows for a variety of force angles that can be modified by changing the pulley placement. Optional placement can be selected for each exercise to ensure an efficient workout. Due to the high intensity anaerobic nature of the following workouts, careful consideration was also given to the selection and sequencing of the muscles to maximize performance for efficiency and recovery.

[2438] Exercise Variations and Terminology:

[2439] Bilateral—Moving both limbs simultaneously

[2440] Unilateral—Moving a single limb.

[2441] Static equilibrium—Both arms move simultaneously in opposite directions while maintaining cable resistance without movement of the glideboard.

[2442] Static hold—Maintain an isometric contraction at a specific point in the movement.

[2443] Pulse—Repeated, small one-count movements.

[2444] Line of pull—Represents the direction in which a resistive force is being applied.

[2445] 3-Step Approach

[2446] Equipment Set-up

[2447] Body Positioning

[2448] Movement with Variations

[2449] The 3-step process will create fluidity and increase the efficiency of training.

[2450] Tempo

[2451] In one example, the first set of a new movement pattern is performed at a slow tempo to ensure easy learning of the movement pattern.

[2452] Select a tempo that ensures each movement can be performed through a full active range of motion and executed with control. The recommended tempo is 125-128 BPM.

[2453] Full time—8 beats per direction of movement

[2454] Half time—4 beats per direction of movement

[2455] Single time—2 beats per direction of movement

[2456] Double time/pulses—1 beat per direction of movement

[2457] Beats in, beats out—use various beats per direction of movement.

[2458] Since each incline bodyweight trainer or exercise device may vary in number of resistance levels offered, level suggestions are based on certain average fitness norms for each exercise. Each individual's specific fitness level should be considered within selecting a level. The level may be raised or lowered so that completion of the exercise is with good form and desired exertion.

[2459] Low range=lower third of tower

[2460] Mid-range=middle third of tower

[2461] High range=top third of tower

[2462] Transitions refer to a change of body position and/or equipment adjustments. This is an opportunity for instructors to educate, teach clients how to adjust their own equipment and give a break in the workout.

Example 1

Fundamental Strength Group (See Step 500 of FIG. 31)

[2463] This example starts with an exercise in an upright supine position without the cables.

Tower Level: mid to high range			
Exercise Sequence	Reps	Tempo	Counts
Squat Bilateral	4	Full Time	64
Squat Bilateral	8	Half Time	64
Squat Bilateral	8	Single Time	32
Squat Unilateral	2	Full Time	32
Squat Unilateral	8	Half Time	64
Squat Unilateral	8	Single Time	32
Squat Unilateral	2	Full Time	32
Squat Unilateral	8	Half Time	64
Squat Unilateral	8	Single Time	32
Toe Out Squat	2	Full Time	32
Toe Out Squat	8	Half Time	64
Toe Out Squat	8	Single Time	32
Transition to Upright Supine with Cables (see step 515 of FIG. 31)			
Upright Supine with Cables			
Level: Low to Mid Range			
LAT Bar Pulley Placement: Inside Middle			
Exercise	Reps	Tempo	Counts
Lat Pull Down	8	Half Time	64
Transition to Arm Pullover			
Arm Pullover	2	Full Time	32
Arm Pullover	4	Half Time	32
Arm Pullover with Crunch	8	Half Time	64
Arm Pullover with Crunch, leg coming up	8	Half Time	64
Arm Pullover with Crunch, legs up hold then Crunch	16	Hold, Double Time, Hold	32
Arm Pullover with Crunch, draw the legs toward the chest	16	Hold, Double Time, Hold	32

-continued

Tower Level: mid to high range			
Arm Pullover with Crunch draw the legs toward the chest and the chest toward the legs Transition to Triceps Press	8	Double Time	16
Triceps Press	2	Full Time	32
Triceps Press	4	Half Time	32
Alternating Triceps Press	8	Single Time	32
Alternating Triceps Press	16	Static Equilibrium	64
Transition to Seated Forward Seated Forward Level: Low to Mid Range LAT Bar Pulley Placement: Inside Middle			
Exercise	Reps	Tempo	Counts
Chest Press	8	Half Time	64
Unilateral Chest Press	12	Single Time	48
Chest Stretch	1	Hold	32
Transition to Seated Backward (step 535 of FIG. 31) Seated Backward Level: Low to Mid Range LAT Bar Pulley Placement: Inside Low			
Exercise	Reps	Tempo	Counts
Seated Row Transition to Unilateral Seated Row	8	Half Time	64
One Arm Row Transition to Unilateral Seated Row 2 nd side	12	Single Time	48
One Arm Row Transition to Biceps Curl	12	Single Time	48
Biceps Curl	4	Half Time	32
Unilateral Biceps Curl	8	Single Time	32
Unilateral Biceps Curl	16	Static Equilibrium	32
Transition to Seated Lateral (step 545) Seated Lateral Level: Low to Mid Range LAT Bar Pulley Placement: Inside Low			
Exercise	Reps	Tempo	Counts
Torso Rotation	8	Half Time	64
Torso Rotation	16	Single Time	64
Transition to Seated Lateral, other side (step 555) Seated Lateral, other side Level: Low to Mid Range LAT Bar Pulley Placement: Inside Low			
Exercise	Reps	Tempo	Counts
Torso Rotation	8	Half Time	64
Torso Rotation	16	Single Time	64
Transition to Inverted Supine (step 565) Inverted Supine Level: Low to Mid Range LAT Bar Pulley Placement: n/a			
Exercise	Reps	Tempo	Counts
Abdominal Crunch	8	Half Time	64
Abdominal Crunch	8	Single Time	32
Abdominal Crunch	1	Hold	32
Abdominal Crunch with Rotation	8	Half Time	64
Abdominal Crunch with Rotation	16	Single Time	32

-continued

Tower Level: mid to high range			
Transition to Hamstring Curl			
Hamstring Curl	2	Full Time	32
Hamstring Curl	8	Half Time	64
Transition to Upright Prone Upright Prone Level: Mid to High Range LAT Bar Pulley Placement: n/a			
Exercise	Reps	Tempo	Counts
Pull-up	2	Full Time	32
Pull-up	4	Half Time	32
Pull-up 2 nd set	8	Single Time	32
Pull-up	4	Half Time	32
Pull-up	8	Single Time	32
Pull-up - stay at the top	1	Hold	16
Pull-up	8	Single Time	32
Transition to Stretching Upright Supine without Cables (step 585)			
Cool Down			
Knee to Chest			
Hamstring Stretch			
Piriformis (outside of hip) Stretch			
Shoulder Stretch			
Chest Stretch			

Example 2

Advanced or Strength Plus Routine (Step 500 of FIG. 32) Start in Upright Supine without the Cables [2464]

Upright Supine without Cables Level: Mid to High Range LAT Bar Pulley Placement: n/a			
Exercise Sequence	Reps	Tempo	Counts
Squat Bilateral	2	Full Time	32
Squat Bilateral	3	Half Time	32
Squat Bilateral	8	Single Time	32
Squat Unilateral	2	Full Time	32
Squat Unilateral	4	Half Time	32
Squat Unilateral	8	Single Time	32
Squat Unilateral	2	Full Time	32
Squat Unilateral	4	Half Time	32
Squat Unilateral	8	Single Time	32
Set Up Bilateral Plyometric Squat	1	Down and Hold	8
Bilateral Plyometric Squat	16	Single Time	64
Alternating Unilateral Plyometric Squat	16	Single Time	64
Transition to Upright Side Lying (step 595 of FIG. 32)			
Side Lying Squat	2	Full Time	32
Side Lying Squat	4	Half Time	32
Side Lying Squat	8	Single Time	32
Side Lying Squat	2	Down Half Time Two Pulses, Press Up Half Time	32
Side Lying Squat	8	Single Time	32
Transition to Upright Side Lying, other side (step 605 of FIG. 32)			
Side Lying Squat	2	Full Time	32
Side Lying Squat	4	Half Time	32
Side Lying Squat	8	Single Time	32

-continued

Side Lying Squat	2	Down Half Time Two Pulses, Press Up Half Time	32
Side Lying Squat Transition to Upright Supine without Cables	8	Single Time	32
Toe Out Squat in Bridge	2	Full Time	32
Tow Out Squat in Bridge	4	Half Time	32
Tow Out Squat in Bridge	8	Single Time	32

Transition to Upright Supine with Cables (step 515, FIG. 32)
Upright Supine with Cables
Level: Low to Mid Range
LAT Bar Pulley Placement: Inside Middle

Exercise	Reps	Tempo	Counts
Lat Pull Down	2	Full Time	32
Lat Pull Down	4	Half Time	32
Lat Pull Down	8	Single Time	32
Arm Pullover	2	Full Time	32
Arm Pullover	4	Half Time	32
Arm Pullover with Crunch	4	Half Time	32
Arm Pullover with Crunch	12	Hold and Pulse	32
Arm Pullover with Crunch, Legs Up	4	Hold	32
Arm Pullover with Crunch, Legs Up	8	Pulse	16
Arm Pullover with Crunch, Legs Variations	1	Hold and Pulse	16
Arm Pullover with Crunch, Legs Variations arm and legs extended	1	Full Time	16

Transition to Triceps Press

Triceps Press	4	Half Time	32
Alternating Triceps Press	8	Single Time	32
Alternating Triceps Press	8	Static Equilibrium, Single Time	16
Alternating Triceps Press	n/a	Static Equilibrium, Fast	16

Transition to Seated Forward (step 525, FIG. 32)
Seated Forward
Level: Low to Mid Range
LAT Bar Pulley Placement: Inside Middle

Exercise	Reps	Tempo	Counts
Chest Press	4	Half Time	32
Chest Press with variations - center, low, center, high	8	Half Time	64
Unilateral Chest Press with variations - center, low, center, high	16	Single Time	64
Chest Press	n/a	Static Equilibrium	32

Transition to Seated/Kneeling Lateral (step 545, FIG. 32)
Seated/Kneeling Lateral
Level: Low to Mid Range
LAT Bar Pulley Placement: Inside Middle

Exercise	Reps	Tempo	Counts
Torso Rotation	8	Half Time	64
Torso Rotation with Variations in, out, rotate, center	2	Half Time	32
Torso Rotation with Variations in, out, rotate, center	4	Single Time	32
Chest Fly	8	Half Time	64
Biceps Curl	8	Half Time	64

Transition to Seated Lateral, other side (step 555, FIG. 32)
Seated/Kneeling Lateral, other side
Level: Low to Mid Range
LAT Bar Pulley Placement: Inside Middle

Exercise	Reps	Tempo	Counts
Torso Rotation	8	Half Time	64
Torso Rotation with Variations in, out, rotate, center	2	Half Time	32

-continued

Torso Rotation with Variations in, out, rotate, center	4	Single Time	32
Chest Fly	8	Half Time	64
Biceps Curl	8	Half Time	64
Transition to Seated Backward (step 635, FIG. 32) Seated Backward Level: Low to Mid Range LAT Bar Pulley Placement: Inside Middle			
Exercise	Reps	Tempo	Counts
Seated Row	4	Half Time	32
Transition to Unilateral Seated Row			
Unilateral Seated Row	4	Half Time	32
Unilateral Seated Row	8	Single Time	32
Transition to Unilateral Seated Row			
Unilateral Seated Row	4	Half Time	32
Unilateral Seated Row	8	Single Time	32
Transition to Bilateral High Elbow Row Backward			
High Elbow Row	4	Half Time	32
Transition the Pulleys to low-inside			
Biceps Curl	4	Half Time	64
Alternating Biceps Curl	8	Single Time	32
Biceps Curl	8	Static Equilibrium	16
Biceps Curl	n/a	Static Equilibrium, Fast	16
Hip Abduction	2	Full Time	32
Hip Abduction	4	Half Time	32
Hip Abduction	8	Single Time	32
Transition to Inverted Supine (step 645, FIG. 32) Inverted Supine Level: Low to Mid Range LAT Bar Pulley Placement: n/a			
Exercise	Reps	Tempo	Counts
Crunch	8	Half Time	64
Crunch with Rotation	8	Half Time	64
Crunch	8	Single Time	32
Crunch	1	Hold 14	16
Hamstring Curl	4	Half Time	32
Hamstring Curl	2	Up 4, Pulse 3, Down 4	16
Hamstring Curl	8	Single Time	32
Transition to Prone (step 575, FIG. 32) Upright Prone Level: Mid to High Range LAT Bar Pulley Placement: n/a			
Pull-up	8	Half Time	64
Pull-up	n/a	Up, Pulse the Top Half, Go Down Pulse the Bottom Half	64
Pull-up	8	Single Time	32
Transition to Stretching Upright Supine (step 585, FIG. 32) Cool Down and Stretches Hamstring Low Back and Gluteus Medius Piriformis Shoulder Triceps Biceps and Chest Upper Back Chest			

[2465] FIGS. 35 to 37 are tables illustrating some other examples of exercise routines using similar principles, and the muscle groups involved in each exercise are listed below.

Example 3

[2466] Strength and Endurance (Total Body) Routine (see FIG. 35). This sample routine is progressive and time effective. The program consists of exercises that challenge all of the major muscle groups. This program increases strength, endurance, flexibility and improves body composition regardless of fitness level. The sequencing reduces transitions, moves from large to small muscle groups and provides additional benefits such as balance, kinesthetic awareness and improved functional performance.

maintain functional-equilibrium during movement. Functional equilibrium refers to the body's natural ability to maintain dynamic stability during movement. For example, when performing a Chest Press on an incline bodyweight trainer, the exercise is cued to maintain an upright posture throughout the movement pattern. This is opposed to a standard Chest Press in that the posture support is provided by a fixed platform (bench). Balance training will not only assist in injury prevention, but can improve performance and confidence in sport and everyday life.

[2468] Kinesthetic awareness is the ability to recognize where all of a person's body parts are in a three dimensional space. A female gymnast must have excellent kinesthetic awareness to move, jump and land on the balance beam. The

Exercise	Position	Muscle Group
1 Bilateral Squat	Upright Supine	Quadriceps, Gluteal Group, Hamstrings
2 Unilateral Squat	Upright Supine	Quadriceps, Gluteal Group, Hamstrings
3 Bridge Squat	Upright Supine	Quadriceps, Hip Adductors, Gluteal Group, Hamstrings
4 Lat Pull Down	Upright Supine	Latissimus Dorsi, Rhomboids, Biceps, Brachioradialis, Brachialis, Trapezius, Teres Major
5 Arm Pullover	Upright Supine	Latissimus Dorsi, Pectoral Group, Serratus, Teres Major, Triceps
6 Pullover Crunch	Upright Supine	Latissimus Dorsi, Abdominals, Obliques, Teres Major, Triceps (Long head), Pectoral Group
7 Triceps Press Down	Upright Supine	Triceps
8 Chest Press	Seated Forward	Pectoral Group, Triceps, Deltoids (Anterior)
9 Seated Row	Seated Backward	Latissimus Dorsi, Trapezius, Teres Major, Biceps, Brachialis, Brachioradialis
10 Unilateral Row	Seated Backward	Hamstrings, Latissimus Dorsi, Trapezius, Rhomboids, Teres Major, Biceps, Brachialis, Brachioradialis
11 Seated Torso Rotation (L)	Seated Lateral	Abdominal, Obliques
12 Seated Biceps Curl	Seated Backward	Biceps, Brachialis, Brachioradialis
13 Hip Abduction	Seated Backward	Gluteus Minius, Gluteus Maximus
14 Seated Torso Rotation (R)	Seated Lateral	Abdominals, Obliques
15 Hamstring Curl	Inverted Supine	Hamstrings, Gastrocnemius
16 Bent Leg Incline Crunch	Inverted Supine	Hamstrings, Abdominals, Obliques
17 Pull-up	Upright Prone	Lattisumus Dorsi, Teres Major, Rhomboids, Biceps, Brachialis, Brachioradialis
18 Cool Down Routine		

Example 4

Balance Routine (See FIG. 36)

[2467] Balance is the one component of physical fitness. Balance can be learned, challenged and improved. Programs designed to improve balance should aim to improve kinesthetic awareness and develop neuromuscular adaptations to

glideboard on the incline exercise device can serve as an unstable platform during exercises, thus creating an unstable environment in which to train. For example, a Kneeling Torso Rotation creates more instability than a Seated Torso Rotation. Trainers can progress many exercises simply by creating more instability. This type of training improves muscle reflect activation in order to maintain stability throughout a movement.

[2469] Sample Balance Routine

Exercise	Position	Muscle Groups
1. Lunge Facing Tower	Base Stand	Quadriceps, Gluteal Group, Hamstrings
2. Lunge Facing Forward	Base Stand	Quadriceps, Gluteal Group, Hamstrings
3. Lunge Facing Lateral	Base Stand	Quadriceps, Gluteal Group, Hamstrings
4. Kneeling Torso Rotation (L and R)	Kneeling Lateral	Abdominals, Obliques
5. Kneeling High Elbow Row	Kneeling Backward	Deltoids, Trapezius, Biceps, Brachialis, Brachioradialis, Infraspinatus
6. Inverted Tuck	Kneeling Inverted	Abdominals, Tensor Fascia Latae, Gluteal Group
7. Single Leg Inverted Tuck	Kneeling Inverted	Abdominals, Tensor Fascia Latae, Gluteal Group
8. Horizontal Shoulder Abduction	Kneeling Lateral	Deltoids, Trapezius, Teres Major, Rhomboids, Teres Minor, Infraspinatus
9. Kneeling Torso Rotation with Angle Variations	Kneeling Lateral	Abdominals, Obliques
10. Static Equilibrium Chest Press	Seated Forward	Pectoral Group, Triceps, Deltoids
11. Push-up	Prone	Triceps, Pectoral Group, Deltoids
12. Bridge Squat	Upright Supine	Quadriceps, Hip Adductors, Gluteal Group, Hamstrings
13. Skiing	Squatting	Gluteal Group, Quadriceps, Hamstrings
14. Cool Down Routine		

Example 5

Cardio Resistance Routine with Optional Equipment
(See FIG. 37)

[2470] Cardio-resistance training is a cardiovascular and strength building routine done in a circuit fashion combining resistance training exercises with bouts of cardiovascular

exercises to maintain an exercising heart rate throughout the routine. The following is a sample cardio-resistance training circuit with space allotted to utilize other cardiovascular training equipment (i.e., jump rope, treadmill, exercise bike, etc.) The following sequence is a sample of dynamic, results-driven programming designed to maximize the efficiency and enjoyment of the training session.

Exercise	Position	Muscle Groups
1. Bilateral Squat	Upright Supine	Quadriceps, Gluteal Group, Hamstrings
2. Unilateral Squat	Upright Supine	Quadriceps, Gluteal Group, Hamstrings
3. Bilateral Heel Raise	Upright Supine	Gastrocnemius
4. Unilateral Heel Raise	Upright Supine	Gastrocnemius
5. Toes Out Squat	Upright Supine	Quadriceps, Hip Adductors, Gluteal Group, Hamstrings
6. Plyometric Skiing (2-3 minutes)	Upright Supine	Quadriceps, Gluteal Group, Hamstrings, Gastrocnemius, Soleus, Abdominals (Obliques)
7. Seated Row	Seated Backward	Latissimus Dorsi, Trapezius, Teres Major, Deltoids, Rhomboids, Biceps, Brachioradialis
8. Biceps Curl	Seated Backward	Biceps, Brachialis, Brachioradialis
9. Reverse Fly	Seated Backward	Deltoids, Trapezius, Rhomboids, Infraspinatus
10. Seated Shoulder Extension	Seated Backward	Deltoids (Posterior), Latissimus Dorsi, Teres Major, Pectoralis Major, Triceps (Long head)
11. Cardio (3 minutes)		

-continued

Exercise	Position	Muscle Groups
12. Pull-up	Upright Prone	Latissimus Dorsi, Teres Major, Rhomboids, Biceps, Brachialis, Brachioradialis
13. Hamstring Curl	Inverted Supine	Hamstrings, Gastrocnemius
14. Bent Leg Incline Crunch	Inverted Supine	Hamstrings, Abdominals, Obliques
15. Cardio (3 minutes)		
16. Chest Press	Seated Forward	Pectoral Group, Triceps, Deltoids (Anterior)
17. Static Chest Press	Seated Forward	Pectoral Group, Triceps, Deltoid
18. Torso Rotation (L and R)	Seated Lateral	Abdominals (Obliques)
19. Horizontal Shoulder Abduction (L and R)	Seated Lateral	Deltoids, Trapezius, Teres major, Rhomboids, Teres Minor, Infraspinatus
20. Cardio (3 minutes)		
21. Pullover Crunch	Upright supine	Latissimus Dorsi, Abdominals, Obliques, Teres Major, Triceps (Long head), Pectoral Group

[2471] The following is an example of a cool down routine on the adjustable incline resistance training device, which may be performed after any of the exercise sequences described above.

- [2472] Starting Position: Seated forward. Sit at the bottom of the glideboard with legs placed on the squat stand, shoulder-width apart.
- [2473] Tower Height: Mid to high.
- [2474] Pulley: Detached
- [2475] Movement slow and controlled
- [2476] Passive and active range of motion achieved
- [2477] Breathe through stretches
- [2478] Starting Body Position: Upright supine
- [2479] Tempo: Slow and controlled
- [2480] Repetitions: One each side

[2481] 1. Piriformis Stretch—cross the ankle of one leg over the knee of the opposite leg, making the shape of a “4” with the legs. Slowly allow the glideboard to slide down the rails until there is a stretch along the outside of the gluteal muscles. If there is any gluteal pain, slowly back out of the stretch until only a mild stretch along the hip and gluteal section is felt.

[2482] 2. Hamstring Stretch—Lie back on the glideboard. Keep one leg supporting weight with slight knee flexion. Bring the opposite leg with knee bent toward the body, hold this position and then straighten the knee actively.

[2483] 3. Side-Lying Quadriceps Stretch—Assume a side-lying position. Pull the top leg back by holding just below the ankle. Repeat for both legs.

[2484] 4. Lower Back Stretch—Sit up with both feet on the squat stand and fleet forward at the hips and lower back. Reach forward with arms extended.

[2485] 5. Seated Deltoids Stretch—Cross one arm over and in front of the chest. With shoulders pulled down away from the ears, pull the arm in front of the chest toward the torso using the other arm.

[2486] 6. Seated Triceps Stretch—Bring the arms overhead, extending through the fingertips. Allow one arm to drop behind the head and down the back, with flexion at the elbow.

[2487] 7. Gluteal Stretch—Lie back on the glideboard in upright supine position with one foot supported on the squat

stand. Pull the opposite knee toward the chest while the lumbar spine maintains contact with the glideboard.

[2488] 8. Upper Back Stretch—In seated (forward) position, reach forward with arms, allowing the scapulae to abduct and protract.

[2489] 9. Calf Stretch—Place toes at the bottom of the squat stand, allowing heels to be free of support. Allow glideboard to lower as you move feet into a dorsiflexed position.

[2490] 10. Hanging Stretch—Lie back on the glideboard. Reach and grab LAT bars. Remove legs from squat stand. Hang freely.

[2491] The foregoing examples and embodiments allow predetermined sequences of exercises to be performed in a manner similar to circuit training but with each exerciser using only a single exercise device to perform the entire exercise sequence. The predetermined sequences of resistance training exercises and body positions are designed for speed and ease of body position transitions, and also minimizes transition of both body position and adjustable parameters of the exercise device to provide more time for performing exercise in a group class, personal training or the like. The exercise sequences may also be designed to move from exercising large muscle groups to small muscle groups, and can readily be adapted for beginners and more advanced or stronger exercisers.

[2492] It will be apparent to those skilled in the art that various modifications and variations can be made in the exercise devices described above, features of the exercise devices, the methods of using the exercise devices, the methods of instruction using the exercise devices, and other methods described herein without departing from the spirit or scope of the invention. In the claims that follow, elements are generally described in a singular sense; however, the claimed element includes the element in the singular or more than one of the claimed element. Thus, it is intended that the present invention cover modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.

What is claimed is:

1. A method of performing a predetermined sequence of different exercises in two or more different exercise positions on an adjustable inclinable exercise device including a verti-

cal tower, an adjustable incline having a first end and a second end and adjustably supported at the first end by the vertical tower for adjusting the incline of the adjustable incline, and a user support platform for engagement by the user movably attached to the adjustable incline and configured for movement along the incline, comprising:

- selecting a predetermined exercise sequence from a plurality of predetermined exercise sequences;
 - a user positioning the adjustable incline of the adjustably inclinable exercise device at a selected inclination based on a selected exercise resistance level;
 - the user engaging the user support platform movable along the adjustable incline in a selected first body position of the selected exercise sequence and performing a selected sequence of at least two different exercises in the selected first body position according to the selected exercise sequence; and
 - the user moving their body according to selected transitions from the first body position to engage the user support platform in successive different body positions and performing at least one different exercise in each different body position until the selected, predetermined exercise sequence is complete;
- wherein the body positions on the adjustable incline are selected from the group consisting of upright supine, seated forward, seated backward, seated lateral, inverted supine, upright prone, upright side lying, kneeling lateral, kneeling backward, inverted prone, and base standing positions.

2. The method of claim 1, wherein the transition from the first body position to a second body position in the exercise sequence is between supine and seated positions on the user support platform, and at least some of the exercises include moving the user support platform along the adjustable incline.

3. The method of claim 1, wherein at least one predetermined exercise sequence includes transitions from upright prone or supine positions to seated positions and from seated positions to upright prone or supine positions.

4. The method of claim 1, wherein at least one predetermined exercise sequence includes a transition from a seated forward to a seated backward position.

5. The method of claim 1, wherein at least one predetermined exercise sequence includes a transition between seated and kneeling positions.

6. The method of claim 1, wherein at least one predetermined exercise sequence includes a transition from a seated to an inverted supine position.

7. The method of claim 1, wherein at least one predetermined exercise sequence includes a transition from an inverted supine to an upright prone or supine position.

8. The method of claim 1, wherein at least one predetermined exercise sequence includes a transition from a base stand position to a kneeling position.

9. The method of claim 1, wherein the first exercise position is an upright supine position and the first exercise sequence comprises squat exercises in which the user engages a foot stand to push the user support platform along the incline and arm exercises in which the user engages handles secured via a cable and pulley mechanism to an upper end of the user support platform.

10. The method of claim 9, wherein the exercise sequence in the upright supine position comprises squat exercises, arm pullover exercises in which the user support platform is

pulled up the incline, and triceps press exercises in which the user support platform is lowered down the incline.

11. The method of claim 9, wherein the exercise sequence in the upright supine position comprises squat exercises, LAT pulldown exercises, arm pullover exercises, arm pullover with crunch exercises, and triceps press exercises.

12. The method of claim 9, further comprising a user moving their body into a second exercise position engaging the user support platform in a seated forward position following the first exercise position a seated forward position and the user performing a series of exercises in the second exercise position comprising chest press and unilateral chest press exercises.

13. The method of claim 9, further comprising the user moving their body into a third body position according to a predetermined third transition of the selected exercise sequence after completion of exercises in the second exercise position, and performing a selected series of exercises in the third body position.

14. The method of claim 13, wherein the third body position is a seated backward position or a seated or kneeling lateral position.

15. The method of claim 14, wherein the third body position is a seated backward position and the selected series of exercises in the third body position comprises rowing and biceps curl exercises.

16. The method of claim 14, wherein the third body position is a seated or kneeling lateral position on one side followed by a seated or kneeling lateral position on the opposite side, and the selected series of exercises in the third body position comprises torso rotation, chest fly, and biceps curl exercises on each side.

17. The method of claim 1, further comprising selecting the predetermined sequence of different exercises and body position transitions from one of the following five tables:

TABLE 1

Transition	Body Position	Exercise sequence	Cables
Start	Upright supine	Bilateral squat, unilateral squat, toe out squat	Without cables
None	Upright supine	LAT pull down, arm pullover, arm pullover with crunch, triceps press.	With cables
Move to seated forward	Seated forward	Chest press, unilateral chest press, chest stretch.	With cables
Move to seated backward	Seated backward	Seated row, unilateral seated row, biceps curl, unilateral biceps curl.	With cables
Move to seated lateral, 1 st side	Seated lateral	Torso rotation	With cables
Move to seated lateral, 2 nd side	Seated lateral	Torso rotation	With cables
Move to inverted supine	Inverted Supine	Abdominal crunch, Abdominal crunch with rotation, hamstring curl	With cables
Move to upright prone	Upright prone	Pull-up	With cables
Move to upright supine	Upright Supine	Stretching/Cool down	Without cables

TABLE 2

Transition	Body Position	Exercise sequence	With or without cables
Start	Upright supine	Bilateral squat, unilateral squat, toe out squat, bilateral plyometric squat, unilateral plyometric squat	Without cables
Move to upright side lying, first side	Upright side lying	Side lying squat	Without cables
Move to upright side lying, second side	Upright side lying	Side lying squat	Without cables
Move to upright supine	Upright supine	Toe out squat in bridge	Without cables
No position change	Upright supine	LAT pull down, arm pullover, arm pullover with crunch and multiple leg variations, triceps press, alternating triceps press	With cables
Move to seated forward	Seated forward	Chest press, chest press with center, low, center, high variations, chest press.	With cables
Transition to seated/kneeling lateral, first side	Seated or kneeling lateral	Torso rotation, torso rotation with variations, chest fly, biceps curl	With cables
Transition to seated/kneeling lateral, second side	Seated or kneeling lateral	Torso rotation, torso rotation with variations, chest fly, biceps curl	With cables
Move to seated backward	Seated backward	Seated row, unilateral seated row, high elbow row, biceps curl, alternating biceps curl, biceps curl, hip abduction.	With cables
Move to inverted supine	Inverted supine	Crunch without and with rotation, hamstring curl	With cables
Move to upright prone	Upright prone	Pull up	With cables
Move to upright supine	Upright supine	Stretch, cool down	

TABLE 3

Transition	Body Position	Exercise sequence	With or without cables
Start	Upright supine	Bilateral squat, unilateral squat, bridge squat	Without cables
No position change	Upright supine	LAT pull down, arm pullover, arm pullover with crunch, triceps press.	With cables
Move to seated forward	Seated forward	Chest press.	With cables
Move to seated backward	Seated backward	Seated row, unilateral seated row	With cables
Move to seated lateral (first side)	Seated lateral	Seated torso rotation (first side)	With cables
Move to seated backward	Seated backward	Seated biceps curl, hip abduction	With cables
Move to seated lateral (second side)	Seated lateral	Seated torso rotation (second side)	With cables
Move to inverted supine	Inverted supine	Hamstring curl, bent leg incline crunch	With cables
Move to upright prone	Upright prone	Pull up	With cables
		Stretch, cool down	

TABLE 4

Transition	Body Position	Exercise sequence	Cables
Start	Base stand	Lunges facing tower, facing forward, facing lateral.	Without cables
Move to kneeling lateral, first side.	Kneeling lateral	Torso rotation	With cables
Move to kneeling lateral, second side.	Kneeling lateral	Torso rotation	With cables
Move to kneeling backward	Kneeling backward	Kneeling high elbow row	With cables
Move to kneeling inverted	Kneeling inverted	Inverted tuck, single leg inverted tuck	With cables
Move to kneeling lateral	Kneeling lateral	Horizontal shoulder abduction, torso rotation with angle variations	With cables
Move to seated forward	Seated forward	Static equilibrium chest press	With cables
Move to prone	Prone	Push up	With cables
Move to upright supine	Upright Supine	Bridge squat	With cables
Move to squatting	Squatting	Skiing	With cables
		Stretching/Cool down	Without cables

TABLE 5

Transition	Body Position	Exercise sequence	Cables
Start	Upright supine	Bilateral squat, unilateral squat, bilateral heel raise, unilateral heel raise, toes out squat, plyometric skiing.	Without cables
Move to seated backward	Seated backward	Seated row, biceps curl, reverse fly, seated shoulder extension Cardio routine	With cables
Move to upright prone	Upright prone	Pull-up	With cables
Move to inverted supine	Inverted supine	Hamstring curl, bent leg incline crunch Cardio routine	With cables
Move to seated forward	Seated forward	Chest press, static chest press.	With cables
Move to seated lateral, 1 st side	Seated lateral	Torso rotation	With cables
Move to seated lateral, 2 nd side	Seated lateral	Torso rotation	With cables
Move to seated lateral, 1 st side	Seated lateral	Horizontal shoulder abduction	With cables
Move to seated lateral, 2 nd side	Seated lateral	Horizontal shoulder abduction Cardio routine	With cables
Move to upright supine	Upright Supine	Pullover crunch, triceps press down, cross body pullover crunch	With cables
	Upright Supine	Stretching/Cool down	Without cables

the user positioning their body on the user support platform in the first body position from the selected table, performing the first exercise series from the selected table, moving their body between the selected sequence of body positions in the selected table at each transition following the first exercise series and performing the selected series of exercises in each new body position following the respective transitions before moving to the next body position until the selected sequence of body positions and exercises in the selected table is completed.

18. The method of claim 1, wherein the exercise device includes one or more cables extendable through first and second pulleys and releasably coupled to the user support platform for movement of the support platform along the adjustable incline through cable movement, and at least one transition further comprising the user coupling or uncoupling the cables from the user support platform prior to engagement of the user support platform in the next body position.

19. The method of claim 1, wherein at least one of the predetermined exercise sequences further comprise exercises using accessories attached to the adjustable incline device, and at least one transition further comprises the user attaching a selected accessory to the adjustable incline device, the accessories being selected from the group consisting of at least a press bar, a toe bar, retractable dip bars, a grip pull-up bar, a squat handle bar, a weight bar, and a foot stand.

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