CIRCULAR FITNESS APPARATUS AND METHOD

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(Abstract)
A circular fitness apparatus and method. The circular fitness apparatus includes plural flexible exercise attachments attached to a vertical pole in a flat or non-flat circular or other shaped base that can be selected and used for simultaneous group or individual fitness exercises by plural exercise participants. The circular fitness apparatus may be used with or without the base component and may be attached to walls, floors or ceilings at one or both ends. The circular fitness apparatus is useable for group and individual exercise activities comprising health based, skill based and functional based fitness activities and athletic conditioning.
FIG. 9

START

SELECT A FIRST SET OF EXERCISE ATTACHMENTS ON A CIRCULAR FITNESS APPARATUS

SELECT A SECOND SET OF EXERCISE ATTACHMENTS ON THE CIRCULAR FITNESS APPARATUS

SELECT A DIRECTION OF MOVEMENT FOR THE FIRST AND SECOND SET OF EXERCISE ATTACHMENTS

SIMULTANEINUOUSLY MOVE THE FIRST SET AND SECOND SET OF EXERCISE ATTACHMENTS IN THE SELECTED DIRECTION OF MOVEMENT, THEREBY PROVIDING GROUP EXERCISE VIA THE CIRCULAR FITNESS APPARATUS

END
FIG. 10

START

SELECT A FIRST SET OF EXERCISE ATTACHMENTS ON A CIRCULAR FITNESS APPARATUS

SELECT A SECOND SET OF EXERCISE ATTACHMENTS ON THE CIRCULAR FITNESS APPARATUS

SELECT A FIRST DIRECTION OF MOVEMENT FOR THE FIRST SET OF EXERCISE ATTACHMENTS

SELECT A SECOND DIRECTION OF MOVEMENT FOR THE SECOND SET OF EXERCISE ATTACHMENTS, WHERE THE SECOND DIRECTION OF MOVEMENT IS DIFFERENT THAN THE FIRST DIRECTION OF MOVEMENT

SIMULTANEOUSLY MOVE THE FIRST SET AND THE SECOND SET OF EXERCISE ATTACHMENTS IN THE SELECTED FIRST AND SECOND DIRECTIONS OF MOVEMENT, THEREBY PROVIDING GROUP EXERCISE VIA THE CIRCULAR FITNESS APPARATUS

END
CIRCULAR FITNESS APPARATUS AND METHOD

CROSS REFERENCES TO RELATED APPLICATIONS

[0001] This Application is a Continuation-In-Part (CIP) of U.S. Patent Application No. 10/679,854, filed, Oct. 6, 2003, that claims priority from U.S.

[0002] Provisional Patent Application 60/417,351, filed Oct. 9, 2002, the contents of all of which are incorporated by reference.

FIELD OF THE INVENTION

[0003] This invention relates to exercise equipment. More specifically, it relates to a circular fitness apparatus and method.

BACKGROUND OF THE INVENTION

[0004] Group physical activity is as old as humankind itself. The concept of physical activity performed in a circle around a pole dates back many thousands of years. Individuals would gather around a tall column, from which multi-colored strips of cloth or rope were suspended. The participants would engage in a series of choreographed movements around the column while music was played. This type of physical activity around a pole was also known as the “May Pole Dance.”

[0005] May Poles were typically used to usher in the spring season. Villagers would go out into the forest, cut down an appropriately sized tree, and decorate it in the town square with ribbons and flowers. The villagers would engage in group movements to music appreciative of the coming spring.

[0006] Circular physical activity and/or the May Pole concept capitalizes on human nature and the desire to work together, play together and grow with one another. Anyone who has witnessed “the wave” being performed by thousands in a stadium can understand this concept quite well, and those who have actually participated know firsthand the enjoyment and feeling of “togetherness” that participation truly brings.

[0007] There are several problems associated with using a pole and a circular activity concept for group exercise. One problem is that most health and fitness clubs do not have poles with multiple ribbons or ropes. Another problem is that if a pole with ribbons or ropes would be available, the multiple ribbons can typically only be used for fixed height, selected dance activities. Such poles with ribbons typically could not be used for health based, skill based or functional based fitness activities. Another problem is that adults interested in health and fitness activities are not likely to consider circular group activity around a pole with colorful ribbons without fear of ridicule by others.

[0008] Thus, it would be desirable to provide a circular exercise device comprising a specialized pole that could be used in health and fitness clubs for group or individual exercise activity. The circular exercise device should be useable for circular individual or group activities comprising health based, skill based and functional based fitness activities.

SUMMARY OF THE INVENTION

[0009] In accordance with preferred embodiments of the present invention, some of the problems associated with group exercise activity are overcome. A circular fitness apparatus and method is presented. The circular fitness apparatus may be used with or without a base component. The circular fitness apparatus and method may be used for circular individual or group activities comprising health based, skill based and functional based fitness activities and athletic conditioning.

[0010] The foregoing and other features and advantages of preferred embodiments of the present invention will be more readily apparent from the following detailed description. The detailed description proceeds with references to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Preferred embodiments of the present invention are described with reference to the following drawings, wherein:

[0012] FIG. 1 is a block diagram of a circular fitness apparatus;

[0013] FIG. 2A is a block diagram illustrating a perspective view of an exemplary central hollow circular base component of the circular fitness apparatus of FIG. 1A;

[0014] FIG. 2B is a block diagram illustrating a top view of an exemplary vertical pole 18;

[0015] FIG. 2C is a block diagram illustrating a top view of an exemplary vertical pole 18;

[0016] FIG. 2D is a block diagram illustrating a side view of a vertical pole attached directly to a floor without a base;

[0017] FIG. 2E is a block diagram illustrating a side view of a vertical pole with a flat base attached directly to a ceiling;

[0018] FIG. 2F is a block diagram illustrating a side view of a circular base with plural legs with a vertical orientation;

[0019] FIG. 2G is a block diagram illustrating a top view of a flat base with plural legs with plural legs in a horizontal orientation;

[0020] FIG. 3A is a block diagram illustrating a side view of an exemplary contoured circular hollow circular base;

[0021] FIG. 3B is a block diagram illustrating a top view of the exemplary contoured circular hollow base of FIG. 3A;

[0022] FIG. 3C is a block diagram illustrating another side view of the exemplary contoured circular hollow base of FIG. 3A;

[0023] FIG. 4A is a block diagram illustrating a top view of a mounting bracket;

[0024] FIG. 4B is a block diagram illustrating a top view of another exemplary mounting bracket;

[0025] FIG. 4C is a block diagram illustrating a side-view of a mounting bracket;

[0026] FIG. 5 is a block diagram illustrating a side-view of a vertical pole with plural mounting brackets including
top and bottom mounting collars attached at plural different locations on the vertical pole;

[0027] Fig. 6A is a block diagram illustrating details of the plural exercise attachments;

[0028] Figs. 6B-6F are block diagrams illustrating perspective views of additional details of the plural exercise attachments;

[0029] Fig. 7 is a block diagram illustrating details of one of the plural handle attachments;

[0030] Fig. 8A is a block diagram illustrating details of an exemplary connections of selected components to the circular fitness apparatus;

[0031] Fig. 8B is a photograph illustrating details of exemplary connections of selected components to the circular fitness apparatus;

[0032] Fig. 9 is a flow diagram illustrating a circular fitness method;

[0033] Fig. 10 is a flow diagram illustrating a circular fitness method;

[0034] Fig. 11 is a photograph illustrating use of the circular fitness apparatus of Fig. 1 and the circular fitness method of Fig. 9;

[0035] Fig. 12 is a photograph illustrating one exemplary embodiment of the circular fitness apparatus of Fig. 1.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Circular Fitness Apparatus

[0036] Fig. 1 is a block diagram of a circular fitness apparatus 10. In one embodiment, the circular fitness apparatus 10 comprises a central hollow circular base 12. The central hollow circular base 12 is a smooth circular or oval shape standing approximately twenty-four to approximately thirty-six inches high with a diameter ranging from twenty-four inches to thirty-six or more inches. However, the present invention is not limited to these measurements or shapes, and other measurements and other shapes (e.g., trapezoid, square, rectangle, etc.) can also be used for the central hollow circular base 12. In another embodiment, the central hollow circular base 12 is contoured as is explained below. In another embodiment, the central hollow circular base 12 is not used as is explained below.

[0037] In one embodiment, the central hollow circular base 12 comprises a single piece of stainless steel with hollow, fillable walls. However, the invention is not limited to such an embodiment and central hollow circular base 12 can comprise multiple pieces, and can include other materials (e.g., composite materials, fiberglass, other metals, plastics, etc.).

[0038] In one embodiment, the stainless steel is brushed-clear coated stainless steel of various colors (e.g., red, green, blue, natural steel, etc.). The coating is used to help resist corrosion from sweat from exercise participants. However, the invention is not limited to such an embodiment and the stainless steel can be processed, coated and colored in other ways.

[0039] In one embodiment, the central hollow circular base 12 further includes plural legs that extend out from the central hollow circular base 12. The plural legs may provide additional stability for the central hollow circular base 12.

[0040] In another embodiment, the circular base 12 is not hollow but instead is a solid piece of material, such as metal, composite materials, plastic, wood, etc. In such an embodiment, the circular base 12 does not include hollow fillable walls.

[0041] In one embodiment, the central hollow circular base 12 is mounted to a fixed surface (e.g., floor, wall, etc.) via a receptacle in the fixed surface.

[0042] Fig. 2A is a block diagram illustrating a perspective view 26 of an exemplary central hollow circular base 12 component of the circular fitness apparatus 10. The central hollow circular base 12 includes a solid component 28 and plural hollow components 30, 32. The solid component includes hollow, fillable walls 33.

[0043] A horizontal hollow component 30 is approximately one-inch in height and is used to hold a rubberized non-skid, non-marring bottom plate 14 attached to the central hollow circular base 12. The rubberized non-skid, non-marring bottom plate 14 is used to provide a non-slip surface for the central hollow circular base. The bottom plate 14 provides additional stability for the central hollow circular base.

[0044] In one embodiment of the present invention, the bottom plate 14 is a rubberized gasket, with an internal portion that is slightly smaller than a diameter of the central hollow circular base 12 that fits inside the horizontal hollow component 30 and an external portion including a raised lip that fits over the central hollow circular base 12. In another embodiment, the bottom plate 14 is a rubberized gasket that includes a raised lip that fits over the central hollow circular base 12 with an internal portion that fits into the horizontal hollow component. In both of these embodiments, the raised lip helps create a suction seal when pressure is applied to the central hollow circular base 12 to help secure the base 12 to a fixed surface. However, the present invention is not limited to these embodiments and other embodiments can also be used to practice the invention.

[0045] In another embodiment of the present invention, the bottom plate 14 is a piece of rubberized material that is slightly smaller than a diameter of the central hollow circular base 12 and slightly smaller in height than the height of the horizontal hollow component 30.

[0046] For example, if an exemplary diameter of the central hollow circular base is thirty-six inches, and the depth of the horizontal hollow component 30 is one-inch, an exemplary diameter of the bottom plate 14 may be thirty-five and three-quarter inches and an exemplary height of the bottom plate 14 may be three-quarters of an inch. The quarter-inch gaps allow an air pocket to be formed between the central hollow circular base 12 and the bottom plate 14.

[0047] The bottom plate 14 is used to provide a seal (e.g., an air suction seal) between the central hollow circular base 12 and a fixed surface it is placed upon (e.g., an exercise floor) when pressure is applied to it (e.g., by stepping on it). The seal adds additional stability to the central hollow circular base 12 exercise activities.
The central hollow circular base 12 comprises a weight of approximately fifty pounds and its hollow walls can be filled with sand, concrete, water or other liquids, dense metals such as lead, steel, etc., or other materials to comprise a weight of approximately 200 pounds when filled for additional stability. In another embodiment, a larger version of the central hollow circular base 12 allows approximately 250 pounds of a material to fill the central hollow circular base 12. In another embodiment, the central hollow circular base 12 with hollow walls is filled with sand, concrete, water or other liquids, dense metals such as lead, steel, etc., or other materials during manufacturing and is permanently sealed with such materials to comprises an appropriate weight and stability.

In another embodiment, the base 12 is a flat base. The flat base 12 is square, rectangular, trapezoidal, circular in shape and includes a vertical hollow component 32 at a center point for attaching a vertical pole 18. In one embodiment, the flat base 12 is mounted to a fixed surface (e.g., floor, wall, ceiling, etc.). The flat base 12 may include plural horizontal or vertical legs (e.g., about 18" to 24" attached to and extending from the flat base 12 for additional stability. A flat base 12 with the plural legs, may or may not be mounted to a fixed surface.

A central vertical hollow component 32 is located at a center point of the central hollow circular base 12 is used to hold a vertical pole 18. The central vertical hollow component 32 includes a diameter slightly larger than a diameter of the vertical pole 18 to allow the vertical pole 18 to be inserted and removed easily, but fit snugly.

FIG. 2B is a block diagram illustrating a top view 35 of an exemplary vertical pole 18. In this embodiment, the vertical pole 18 comprises a single circular hollow tube. In one embodiment, the diameter of the vertical pole 18 is specifically sized to fit inside the central vertical hollow component 32, whether of not the central hollow circular base 12 is used.

FIG. 2C is a block diagram illustrating a top view of 37 of another exemplary vertical pole 18". In the exemplary embodiment, the vertical pole 18" comprises plural hollow tubes. In one embodiment, the diameter of the vertical pole 18" is specifically sized to fit inside the central hollow vertical component 32, whether or not the central hollow circular base 12 is used.

In another embodiment, the vertical pole 18 includes a circular rim apparatus with multiple spokes that is slips over one end of the vertical pole 18 and is used as a mounting bracket 22. In such an embodiment, the circular rim apparatus looks like a large bicycle rim horizontally attached to the vertical pole 18 through a center opening in the circular rim apparatus. Exercisers clip exercise attachments 20 onto the circular rim apparatus via one of the plural openings between the plural spokes. The circular rim apparatus can be moved up and down in height on the vertical pole 18 to create different anchor heights. This allows the circular rim apparatus to be moved up and down the vertical pole by the exercisers during exercise without removing and re-clipping their exercise attachments 20.

In another embodiment, the vertical pole 18 includes a larger version of the circular rim apparatus with plural spokes. In such an embodiment, the circular rim apparatus looks like a large bicycle rim turned on its side and is attached to the vertical pole 18 in a vertical orientation through a central portion or the circular rim apparatus.

Exercisers clip exercise attachments 20 onto the circular apparatus. In one embodiment, the larger circular rim apparatus covers the entire length of the vertical pole 18. In another embodiment, the larger circular rim apparatus covers less than the entire length of the vertical pole 18.

In one embodiment of the present invention, the vertical pole 18 ranges in height from six feet to six feet ten inches in length to accommodate standard seven foot ceilings. The vertical pole 18 also comprises a diameter of about 2.25 inches. In such an embodiment, the central vertical hollow component 32 includes a diameter of 2.28 inches. However, the present invention is not limited to these measurements and other measurements and other diameters can also be used for the vertical pole 18 and the central vertical hollow component 32.

In one embodiment of the present invention, the vertical pole 18 comprises a single piece of material 18". In one embodiment, the single piece is a single hollow stainless steel tube as is illustrated in FIG. 2B. In another embodiment, the vertical pole 18 comprises a solid round vertical pole. In another embodiment, the vertical pole 18 comprises plural hollow tubes attached in a circular shape. In another embodiment, the vertical pole 18 comprises plural hollow tubes attached in a non-circular shape (e.g., diamond, irregular, etc.).

FIG. 2C illustrates the vertical pole 18" as four hollow attached tubes in a non-circular shape. However, the present invention is not limited to four tubes and more or fewer tubes or solid vertical poles can be used to practice the invention. However, the present invention is not limited to such an embodiment and other materials (e.g., other metals, composite materials, wood, plastic, etc.) and other numbers of solid poles or hollow tubes can also be used for the vertical pole 18.

The vertical pole 18 comprising a single hollow tube or single solid vertical pole can also comprise multiple pieces that are permanently attached (e.g., plural pieces welded together etc.) or non-permanently attached (e.g., plural pieces attached with pins such as spring-loaded pins, that fit into pre-drilled holes, etc.). The vertical pole 18 comprising plural hollow tubes or plural solid vertical poles can also comprise multiple pieces are either permanently attached or non-permanently attached as described above.

The vertical pole 18" can also comprise hollow tubes of non-circular shapes or solid poles of non-circular shape.

In one embodiment, the vertical pole 18 is mounted directly to a fixed surface such as a wall, floor or ceiling without using the central hollow circular base 12 or the flat base 12.

FIG. 2D is a block diagram illustrating a side view 39 of a vertical pole 18 attached directly to a floor without any base 12 or 12'.

FIG. 2E is a block diagram illustrating a side view 41 of a vertical pole 18 with a flat base 12' attached directly to a ceiling.
In one embodiment, the one fixed surface includes a mounting point for the vertical pole 18. In such an embodiment, the mounting point includes a receptacle with a diameter large enough to accommodate the vertical pole 18.

In another embodiment, the vertical pole 18 is mounted between two fixed surfaces. In one exemplary embodiment, the vertical pole 18 is mounted at one end to a first fixed surface and mounted at another end to a second fixed surface. In one embodiment, the vertical pole 18 is mounted at one end to a floor and at another end to a ceiling. In another embodiment, the vertical pole is mounted at one end to a wall and at another end to a floor. In another embodiment, the vertical pole is mounted at one end to a ceiling and at another end to a wall (e.g., at an angle of 45 degrees, etc.). However, the present invention is not limited to these embodiments and other embodiments and combinations can also be used.

In one embodiment, the vertical pole 18 is mounted so exercisers can access the vertical pole 18 all around the vertical pole 18 (e.g., 360 degree access). In another embodiment the vertical pole 18 is mounted close to a fixed surface so exercisers can access the vertical pole 18 in a limited area around the vertical pole 18 (e.g., 270 degrees, 180 degrees or less, etc.).

FIG. 2F is a block diagram illustrating a side view 43 of a flat square base 12 with plural legs 45. In one embodiment, the flat square base 12 further includes plural legs 45 that extend out from the vertical pole 18 and include a vertical orientation (illustrated in FIG. 2F). In such an embodiment, the plural legs 45 are flat (e.g., 1"-2" in height) to provide stability but not interfere with exercisers.

FIG. 2G is a block diagram illustrating a top view 47 of a flat circular base 12 with plural legs 45. The plural legs 45 that extend out from the flat circular base 12 and include a horizontal orientation. FIG. 2G illustrates two flat legs 45. However, the invention is not limited to two flat legs 45, and more or fewer flat legs 45 can be used to practice the invention. The plural legs 45 may provide additional stability for the vertical pole 18 when the vertical pole is mounted directly to a fixed surface.

In these two and other similar embodiments, the plural legs 45 may also provide additional stability when the vertical pole 18 is used without the central hollow circular base 12 or is used with a flat base 12.

Returning to FIG. 1, in another embodiment of the invention, the central hollow circular base 12 is a contoured shape with a peripheral standing, approximately ten inches high. The contoured shape allows the hollow circular base 12 to be transported more easily and also allows the hollow circular base 12 to be included in, and used as part of exercise methods performed on the circular fitness apparatus 10.

The contoured shape may also provide additional stability for the hollow circular base 12 and not cause tripping by exercise participants.

FIG. 3A is a block diagram illustrating a side view 34 of an exemplary contoured 36 central hollow circular base. The exemplary contoured circular hollow base 36 includes a first contour 38 with an outside diameter of thirty-six inches.

The first contour 38 is one inch in height and includes a hollow horizontal component 40 (illustrated by the dotted line) one inch in height in which the bottom plate 14 is attached.

The exemplary contoured circular hollow circular base 36 includes a second contour 42 from one inch in height, until eight inches in height. The diameter of the second contour 42 gradually decreases in diameter from thirty-six inches at one inch in height to twenty-four inches at eight inches in height.

The exemplary contoured circular hollow base 36 includes a third contour 44 from eight inches in height to nine inches in height. The diameter of the third contour 44 gradually decreases in diameter from twenty-four inches at eight inches in height to three inches at nine inches in height.

The exemplary contoured circular hollow base 36 includes a fourth contour 46 from nine inches in height to ten inches in height. The fourth contour 46 is one-quarter to three-quarters of inch in thickness and includes a central vertical hollow component 48 with an outside diameter of 3 inches and an inside diameter of 2.28 inches. This diameter is used to accommodate a circular pole 18 of 2.25 inches.

The contoured circular hollow base 36 also includes an attached rubberized non-slip, non-marring bottom plate 14. The bottom plate 14 is shown detached in FIG. 3A for illustrative purposes, but is normally attached to the contoured hollow base 36.

In one embodiment of the invention, the bottom plate 14 comprises a rubberized gasket with a raised lip comprising a diameter of 36.75 inches to be used with a first contour 38 of thirty-six inches in diameter and a height of 0.75 inches. In such an embodiment, the bottom plate 14 is attached over the contoured circular hollow base 36.

In another embodiment of the invention, the bottom plate 14 comprises a rubberized non-skid, non-marring with diameter of 35.875 inches and a height of 0.758 inches to be used with the contoured circular hollow base 36 with a first contour 38 of thirty-six inches in diameter and a first horizontal hollow component 40 of one-inch in height. In such an embodiment, the bottom plate 14 is attached inside the horizontal hollow component 40 of contoured circular hollow base 36.

In such an embodiment, since the bottom plate 14 has a diameter slightly smaller than the first contour 38 of contoured circular hollow base 36, the bottom plate 14 is also used to create and maintain a seal between the contoured circular hollow base 36 and a surface, such as an exercise floor it is being used upon as was explained above.

In one embodiment of the present invention, the contoured circular hollow base 36 comprises a single piece of brushed clear-coated stainless steel of varying colors (e.g., red, green, blue, natural steel, etc.). However, the invention is not limited to such an embodiment and the contoured circular hollow base 36 can comprise other materials (e.g., composite materials, other metals, plastics, etc.) other coatings and other colors.

The contoured central hollow circular base 36 also comprises a weight of approximately fifty pounds and also includes hollow, fillible walls that can be filled with sand or
other materials to comprise a weight of approximately 200 pounds when filed for additional stability.

[0083] The diameter and heights of the central hollow circular base 12 and the contoured hollow bases 36 both are specifically selected to fit through small standard-size doorway openings (e.g., thirty-two inch to thirty-six inch doorways).

[0084] FIG. 3B is a block diagram illustrating a top view 50 of the exemplary contoured circular hollow base 36 of FIG. 3A.

[0085] FIG. 3C is a block diagram illustrating another side view 52 of the exemplary contoured circular hollow base 36 of FIG. 3A. This side-view illustrates a central hollow vertical component 54 including the vertical pole 18, a horizontal hollow component 55 including all or part of the bottom plate 14, and hollow, fillable walls 57 ranging from one-inch to three-inches in thickness. FIG. 3C illustrates a bottom plate 14 attached over the contoured circular hollow base 36.

[0086] However, the present invention is not limited to these embodiments or measurements and other embodiments, measurements and combinations can also be used.

[0087] Returning to FIG. 1, the vertical pole 18 includes plural exercise attachments 20, 20' (two of which are illustrated) attached to the vertical pole 18 with one or more mounting brackets 22. The plural exercise attachments 20, 20' radiate out from the vertical pole 18.

[0088] FIG. 4A is a block diagram illustrating a top view 56 of an exemplary mounting bracket 22. In one embodiment, the mounting bracket 22 comprises a piece of stainless steel and includes a plural attachment points 58, 60, 62, 64 (four of which are illustrated for simplicity) for attaching the plural exercise attachments 20, an attachment point 66 and a mounting bracket collar 68 to mount the mounting bracket 22 on the vertical pole 18.

[0089] However, the present invention is not limited to a mounting bracket 22 with four attachment points and more or fewer attachment points can also be used. In addition, it is not limited to a mounting bracket 22 made of stainless steel and other metals and other materials such as plastic, composite materials, etc. can also be used for mounting bracket 22.

[0090] The mounting brackets 22 typically include twenty-four attachment points to attach twenty-four or more exercise attachments 20 equally (or unequally) spaced around the vertical pole 18 to accommodate twenty-four or more group exercise participants. In addition, a single mounting point, such as mounting point 58, is large enough and is typically used to attach plural exercise participants (e.g., 10 or more).

[0091] In another embodiment of the present invention, the mounting bracket 22 can also be mounted on a wall or other fixed surface.

[0092] FIG. 4B is a block diagram illustrating a top view 57 of another exemplary mounting bracket 22. In this exemplary embodiment, the mounting bracket 22 includes plural small individual attachment points 59 for attaching the plural exercise attachments 20 instead of a fewer number of larger attachment points. The plural exercise attachments 20 are attached to individual attachment points 59 and fit snugly within the individual openings 59.

[0093] FIG. 4C is a block diagram illustrating a side-view 70 of a mounting bracket 22. The mounting bracket 22 is anchored in place on the vertical pole 18 by one or more attached mounting bracket collars 68, 72 (two of which are illustrated) attached above and/or below the mounting bracket 22. The mounting collars 68, 72 are illustrated as being detachable mounting bracket 22. However, the mounting bracket 22 can also include permanently attached mounting collars. The mounting bracket 22 can also include only a top mounting collar 68, or only a bottom mounting collar 72, or both a top mounting collar 68 and a bottom mounting collar 72.

[0094] In another embodiment of the present invention, mounting bracket 22 includes plural individual attachment points comprising plural small round (or other shaped) holes 59 drilled with a diameter just slightly larger than an attachment clip used to attach an exercise attachment 20. In such an embodiment, only one exercise attachment 20 can be attached per attachment point. In such an embodiment, the mounting points cannot be used to attached plural exercise participants.

[0095] In one embodiment, the one or more mounting brackets 22 can rotate around the vertical pole 18 via opening 66 will be supported by the mounting bracket collars 68, 72. In another embodiment, the one or more mounting brackets 22 cannot be rotated around the vertical pole 18 via opening 66.

[0096] In one embodiment of the present invention, the mounting collars 68, 72 may include spring loaded or non-spring loaded pins 74 that can be pushed into pre-drilled holes in the vertical pole 18 as is illustrated only on mounting collar 68. In another embodiment of the present invention, the mounting collars 68, 72 include an allen bolts, or other types of bolts or screws or pins (not illustrated).

[0097] In another embodiment of the present invention, the mounting collars 68, 72 include a screw with a handle 76 that can be tightened to engage the vertical pole 18 (e.g., with no pre-drilled holes) as is illustrated only on mounting collar 72. In yet another embodiment of the present invention, the mounting collars 68, 72 include a screw with a handle that is used to tightened the mounting collars 68, 72 themselves (not illustrated) to engage and hold the collars on the vertical pole 18 (e.g., with no pre-drilled holes).

[0098] In yet another embodiment of the present invention, the one or more mounting brackets 22 do not include mounting collars but instead include a resistance (e.g., friction, etc.) inside (e.g., rubber, nylon, etc.) surface (e.g., a coating, gasket, washer, etc.) to provide resistance when in contact with the vertical pole 18 to keep it at a desired location.

[0099] In one embodiment, the one or more mounting brackets (e.g., versions 56, 57) are permanently attached at pre-determined locations on the vertical pole 18. In such an embodiment, the mounting brackets cannot be moved and do not spin or rotate around the vertical pole 18.

[0100] In one embodiment, the one or more mounting brackets 22 allow the plural exercise attachments 20 to be moved in repetitive 360-degree movement patterns. The one
or more mounting brackets 22 can be closely spaced to each other around the vertical pole 18 to create a centralized mounting point. The one or more mounting brackets 22 may also be attached widely spaced to form a singular mounting point and allowing the plural the one or more mounting brackets 22 to be moveable up and down, along and around the vertical pole 18. In other embodiment, the one or more mounting brackets 22 allow the plural exercise attachments 20 to be moved in less than 360-degree movement repetitive patterns.

[0101] FIG. 5 is a block diagram illustrating a side-view 78 of the vertical pole 18 with plural mounting brackets 22 including top 68 and bottom 72 mounting collars attached at plural different locations on the vertical pole 18. FIG. 5 is illustrated with a bottom plate 14 that is attached inside the horizontal hollow component 40. However, the present invention is not limited to this embodiment and the bottom plate 14 can also comprise a rubberized gasket attached over the countered base 36 as is illustrated in FIG. 3C.

[0102] FIG. 6A is a block diagram illustrating details 80 of the plural exercise attachments 20. The plural exercise attachments 20 include plural mounting clips 82 and 84 attached at opposite ends of the exercise attachments 20.

[0103] In one embodiment of the present invention, the plural mounting clips 82 and 84 are both plastic “D” shaped rings. In such an embodiment, one or more of the mounting clips 82, 84 may be attached to a carabiner clip. In another embodiment of the present invention, a first of the mounting clips 82 is a “D” shaped ring and a second of the mounting clips 84 is a carabiner clip 86 (not illustrated).

[0104] In yet another embodiment of the present invention, both of the mounting clips 82 and 84 are both carabiner clips 86. The carabiner clips 86 allow quick, easy and efficient attachment/detachment of the exercise attachments 20.

[0105] However, the present invention is not limited to such mounting clips and other types and shapes of mounting clips and mounting rings including mounting clips and mounting rings comprising other materials (e.g., metals, composite materials, etc.) can also be used.

[0106] In one embodiment of the present invention, all the plural exercise attachments 20 are thirty-six inches in length. However, the present invention is not limited to such an embodiment and the plural exercise attachments 20 can be shorter or longer lengths. In addition, the plural exercise attachments 20 can include plural different lengths.

[0107] Returning to FIG. 1, in one embodiment of the present invention, the plural exercise attachments 20, 20’ comprise elastic or rubber or otherwise flexible bands or tubes of varying thicknesses that are color coded and provide varying levels of resistance. For example, the plural exercise attachments 20 may include latex bands, non-latex bands, rubberized bands, rubber tubing, or other types of flexible exercise attachments.

[0108] For example, the plural exercise attachments 20 may include THERABAND brand products by Lifestyle Sports, Inc. or Dunkirk, N.Y. or SPRI brand products by SPRI Products, Inc. of Libberville, Ill., or others. However, the present invention is not limited to THERABAND brand or SPRI brand products and bands or tubes by other manufacturers can also be used. In addition, the present invention is not limited to elastic or rubber bands or tubes and flexible tubes of other materials can also be used.

[0109] In one embodiment, the plural exercise attachments 20 include COREPOLE brand products. The COREPOLE brand products include a higher modulus material attached to and covered, in whole or in part, by covering of a lower modulus material, or visa-versa. The plural exercise attachments made of different modulus materials prevent the plural exercise attachments 20 from separating and causing injury to an exerciser applying the load or other exercisers or bystanders in the immediate vicinity should the plural exercise attachments 20 fail.

[0110] As is known in the art, when a material is subjected to an external load it becomes distorted or strained. When the load is removed, the material returns to its original dimensions (i.e., they are elastic). Within the limits of elasticity, the ratio of the linear stress to the linear strain is termed the “modulus” of elasticity. The higher a modulus of material, the more stiff it is and the less flexible it is.

[0111] The plural exercise attachments 20 are continuously stretched by a user providing resistance exercise to a user thereby alternatively applying a load to plural exercise attachments 20 and removing the load applied to the plural exercise attachments.

[0112] In one embodiment, the higher modulus material provides resistance and a pre-determined amount of elasticity for exercisers. The higher modulus material is stiff yet does provide elasticity. The lower modulus material is not stiff provides about three to four times more elasticity than the higher modulus material and very little resistance (i.e., little or no noticeable resistance for an exerciser).

[0113] For example, the lower modulus material may include a resistance and elasticity similar to that of a normal rubber band, while the higher modulus material may include a resistance and elasticity similar that of a bungey chord or rubber tube. However, the present invention is not limited to a lower modulus material that has three to four times the elasticity of the higher modulus material and other ratios of elasticity between the high and low modulus materials can also be used to practice the invention.

[0114] If the higher modulus material should wear out and fail (i.e., break), the lower modulus material covering will prevent the higher modulus material from separating and causing injury to the exerciser applying the load or other exercisers or bystanders in the immediate vicinity.

[0115] The plural exercise attachments 20 with higher modulus and lower modulus materials may be solid, hollow or include plural types of coverings as is explained below.

[0116] The plural exercise attachments 20 may be manufactured via multiple (e.g., dual/triple) extrusions to create flexible bands, tubes, chords, arms, cables, etc. for exercise.

[0117] In one exemplary embodiment, the plural exercise attachments 20 comprises a higher modulus natural latex rubber core with a lower modulus natural latex rubber covering. The flexible attachment include varying thicknesses that are color coded (e.g., Tables 1, 2) and provide varying levels of resistance for exercising. However, the present invention is not limited to this embodiment and other high and lower modulus materials may also be used to practice the invention.
FIGS. 6B-F are block diagrams illustrating additional details of the plural exercise attachments.

FIG. 6B is a block diagram illustrating a perspective view of an exercise attachment 20 with a solid core. The exercise attachment 20 includes a solid core 89 of a higher modulus material attached to and covered by a covering 91 of a lower modulus material (or visa-versa, i.e., a lower modulus material covered by a higher modulus material, etc.).

In such an embodiment, the exercise attachment 22 provides a pre-determined resistance and elasticity due to the solid core 89 of the higher modulus material. If the solid core 89 of the higher modulus material should fail (i.e., break), the covering 91 of a lower modulus material prevents separation and injury. Should a failure occur with the solid core 89 of the higher modulus material, the exercise attachment 20 will go “limp” since the covering 91 of the lower modulus material has an elasticity three to four times higher than the solid core 87 of the higher modulus material. A limp exercise attachment can then be replaced when noticed an exerciser.

FIG. 6C is a block diagram illustrating a perspective view of an exercise attachment 20 with a hollow core. The exercise attachment 20 includes a hollow tube with plural layers, including but not limited to a first layer 95 of a higher modulus material attached to and covered by a second layer 97 of a lower modulus material (or visa versa).

The exercise attachment 20 of FIG. 6C is illustrated with two layers.

However, the present invention is not limited to this embodiment and more layers can also be used to practice the invention.

FIG. 6D is a block diagram illustrating a perspective view of an exercise attachment 20 with additional attachments. The exercise attachment 20 includes a first portion 101 of a higher modulus material. The exercise attachment 20 includes a second portion 103 comprising plural strands of a lower modulus material (or visa versa).

In one embodiment, the first portion 10 is a solid band. In another embodiment, the first portion 101 is hollow tube (illustrated).

In one embodiment, the second portion 103 includes plural strands attached longitudinally to the first portion at zero at predetermined angles (e.g., 90, 180 and 270 degree angles) with a predetermined equal spacing (e.g., 90 degrees, etc.) around the first portions 101. However, the present invention is not limited to the degree placement illustrated and the plural strands can be placed at other angles to practice the invention.

In another embodiment, the second portion 103 includes plural strands attached longitudinally to the first portion 101 at various angles where the angles are separated by unequal spacing. In another embodiment, the second portion 103 is applied in a spiral or corkscrew manner to the first portion 101.

FIG. 6E is a block diagram illustrating a perspective view of an exercise attachment 20 with additional attachments. The exercise attachment 20 includes a first portion 107 of a higher modulus material and a second portion 109 and a third portion 111 of a lower modulus material. In one embodiment, the third portion 101 is identical to the lower modulus material of the second portion 109. In another embodiment, the third portion 111 includes a lower modulus material different from the second portion 109.

In one embodiment, the first portion 107 is a solid band. In another embodiment, the first portion 107 is hollow tube (illustrated).

The exercise attachment 20 includes a second portion 109 with plural circumferential attachments adhered to and in contact with the first portion 107 of the higher modulus material attached in a predetermined pattern to the higher modulus material. The plural circumferential attachments of the second portion 109 are attached with the third portion 101 comprises one or more bands or tubes of a lower modulus material. The second portion 109 and the third portion 101 prevent separation of the first portion 107, should the first portion 107 break during application and removal of loads.

In one embodiment, the second portion 109 includes plural circumferential attachments comprising, natural or artificial rubbers or plastics. The third portion 111 is a lower modulus material with the same modulus or a different modulus than the second portion 109 comprising plural longitudinal bands. However, the present invention is not limited to such an embodiment and other materials and other orientations can also be used to practice the inventions (e.g., metal, composite materials, etc.).

FIG. 6F is a block diagram illustrating a perspective view of an exercise attachment 20 with additional attachments. The exercise attachment 20 includes a first portion 115 of a higher modulus material and a second portion 117 comprising plural strands of a lower modulus material (or visa versa).

In one embodiment, the first portion 115 is a solid band. In another embodiment, the first portion 115 is hollow tube (illustrated).

In one embodiment, the pre-determined pattern includes plural strands of the second portion 117 of lower modulus material attached circumferentially around the first portion 115. However, the present invention is not limited to these embodiments and other combinations thereof can also be used to practice the invention.

In another embodiment, the plural exercise attachments 20 illustrated in FIGS. 6A-6F are encased in a protective casing. In such an embodiment, should the plural exercise attachments 20 fail, pieces of the plural exercise attachments will be contained in the protective casing.

However, the present invention is not limited to these embodiments and more or fewer strands or other attachments can also be used to practice the invention. 130

In all of the embodiments described herein, an exerciser periodically applies and removes a load to the flexible attachment. If the higher modulus material of the flexible attachment should wear out and fail (i.e., break), the lower modulus materials will prevent the higher modulus material from separating and causing injury to the exerciser, other exercisers or bystanders in the immediate vicinity.
In other embodiments of the present invention, the plural exercise attachments 20 can also comprise cloth, metal, plastic, composite or other materials. The plural exercise attachments 20 can include plural solid poles, flexible chords or straps, non-flexible chords or straps, or other types of exercise attachments 20 such as cables or flexible rods, arms, springs, etc.

In another embodiment, plural exercise attachments 20 may also be attached to cables, springs, or pulley systems that are in turn attached to stacks of weights, stacks of plates, or flexible rods or arms attached to vertical pole 18 and/or central hollow circular bases 12, 36 (not illustrated) that provide resistance.

Table 1 illustrates an exemplary color-coded resistance scheme for the plural exercise attachments 20 when elastic or rubber bands or tubes are used. However, the present invention is not limited to the colors or resistance levels illustrated in Table 1 and more, less, or different colors and resistance levels and other thicknesses can be used to practice the invention.

<table>
<thead>
<tr>
<th>Color</th>
<th>Resistance Level</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tan</td>
<td>Extra Light</td>
<td>0.25&quot;</td>
</tr>
<tr>
<td>Yellow</td>
<td>Light</td>
<td>0.50&quot;</td>
</tr>
<tr>
<td>Red</td>
<td>Medium</td>
<td>0.75&quot;</td>
</tr>
<tr>
<td>Green</td>
<td>Heavy</td>
<td>1.00&quot;</td>
</tr>
<tr>
<td>Blue</td>
<td>Extra Heavy</td>
<td>1.25&quot;</td>
</tr>
<tr>
<td>Black</td>
<td>Very Heavy</td>
<td>1.75&quot;</td>
</tr>
</tbody>
</table>

Table 2 illustrates another exemplary color-coded resistance scheme for the plural exercise attachments 20. However, the present invention is not limited to the colors or tensions illustrated in Table 2 and more, less, or different colors and tension levels can be used to practice the invention.

<table>
<thead>
<tr>
<th>Color</th>
<th>Tension</th>
<th>100% Stretch</th>
<th>200% Stretch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>High Tension</td>
<td>14 lbs.</td>
<td>22 lbs.</td>
</tr>
<tr>
<td>Red</td>
<td>Medium Tension</td>
<td>9 lbs.</td>
<td>13 lbs.</td>
</tr>
<tr>
<td>Green</td>
<td>Low Tension</td>
<td>7 lbs.</td>
<td>8 lbs.</td>
</tr>
</tbody>
</table>

An exercise participant desiring to exercise would select a desired level of resistance by selecting an appropriate color and thickness for the exercise attachment 20 from a rack including the plural exercise attachments 20. For example, a first exercise participant desiring a light workout might select a set of yellow exercise attachments 20. A second exercise participant desiring a very heavy workout might select a set of black exercise attachments 20. Both sets of exercise attachments 20 can be attached to the same or a different mounting bracket 22 attached to the vertical pole 18 allowing simultaneous group or individual physical activity.

In one embodiment of the present invention, a whole group of exercise participants may select exercise attachments 20 with the same color and thickness to participate in a uniform group physical activity (e.g., all yellow exercise attachments) where each exercise participant is considered to be of the same or similar fitness level.
In another embodiment of the present invention, the handle 24 may include an inverted “T-shaped” handle (not illustrated) to allow an exercise participant to grasp the handle 24 with both hands. However, other handle shapes may also be used and the present invention is not limited to the handle 24 and the handle components described.

In another embodiment of the present invention, the grip component 90 may be extended to 10.5 inches or more in length extend beyond both of its connections to the strap component 92 (not illustrated). Such an embodiment can also be used for two hand gripping by an exercise participant.

FIG. 8A is a block diagram illustrating details 96 of exemplary connections of selected components of the circular fitness apparatus 10. However, the present invention is not limited to such connections, and other types of connections and other combinations of connections can also be used. This block diagram is not drawn to scale.

FIG. 8B is a photograph illustrating details 121 of exemplary connections of selected components to the circular fitness apparatus 10. This photograph illustrates plural carabiner clips 86 connected to one attachment point 58 of the mounting bracket 22 illustrated 56 in FIG. 4A. This photograph also illustrates a portion of an exerciser grasping plural exercise attachments 20.

Returning to FIG. 1, the central hollow circular base 12 and central hollow contoured circular base 36 includes plural wheels 16 for transport. In one embodiment of the present invention, the plural wheels 16 include two or more “twist-wheels” that are twisted to engage, and untwisted to disengage. For example, the twist-wheels are twisted to engage them and move the circular fitness apparatus 10 to a new location.

Then the wheels are dis-engaged.

In another embodiment of the present invention, the plural wheels 16 include two or more “tilt-n-steen” wheels that allow the circular fitness apparatus 10 to be tilted and pushed or pulled around from place-to-place. (See FIG. 8). The tilt-n-steen are engaged when the central hollow circular base 12 and central hollow contoured circular base 36 are tilted and disengaged when they are not.

In one embodiment of the present invention, the wheels 16 are evenly spaced around central hollow circular base 12 and contoured base 36. In another embodiment of the invention, the wheels 16 are un-evenly spaced. However, the present invention is not limited to such wheels and wheel spacing and other types of wheels 16 and spacing can also be used.

In another embodiment, the central hollow circular base 12 does not include any wheels 16. In such an embodiment, the central hollow circular base 12 is moved with a custom or non-custom, cart, dolly, etc. In another embodiment, the central hollow circular base 12 does not include any wheels 16 and is rolled from place to place.

The circular fitness apparatus 10 is typically used as a free standing apparatus used for 360 degree individual or group exercise activities around the central hollow circular base 12 or countered base 36. In another embodiment of the present invention, the circular fitness apparatus 10 can be permanently mounted to a wall, floor or ceiling and used for individual or group exercise activities for less than 360 degree individual or group exercise activities.

The circular fitness apparatus 10 is used in health and fitness clubs for group exercise individual exercise activity. The circular fitness apparatus 10 is useable for individual or group exercise activities comprising health based, skill based and functional based fitness activities.

Circular Fitness Apparatus Exercise Methods

FIG. 9 is a flow diagram illustrating a circular fitness Method 98. At Step 100, a first set of exercise attachments 20 are selected on the circular fitness apparatus 10. At Step 102, a second set of exercise attachments 20 are selected on the circular fitness apparatus 10, other than the first set exercise attachments 20. At Step 104, a direction of movement is selected for the first set of exercise attachments 20 and for the second set of exercise attachments 20'. The direction of movement is the same for the both the first and second set of exercise attachments. At 106, the first set and the second set of exercise attachments 20' are simultaneously moved in the selected direction of movement respectively, thereby providing group exercise via the circular fitness apparatus 10.

In another embodiment of the present invention, the first or second set of exercise attachments 20, 20' can be moved in a direction opposite or at some other angle to the selected direction of movement selected at Step 104, thereby also providing different types group exercise activities.

FIG. 10 is a flow diagram illustrating a circular fitness Method 108. At Step 110, a first set of exercise attachments 20 are selected on the circular fitness apparatus 10. At Step 112, a second set of exercise attachments 20 are selected on the circular fitness apparatus 10, other than the first set of exercise attachments 20. At Step 114, a first direction of movement is selected for the first set of exercise attachments 20. At Step 116, a second direction of movement is selected for the second set of exercise attachments 20'. The second direction of movement is different than the selected first direction of movement. At 118, the first set of exercise attachments 20 and the set of second exercise attachments 20' are simultaneously moved in the first and second selected directions of movement respectively, thereby providing group exercise via the circular fitness apparatus 10.

In embodiments of the present invention, an exercise participant typically selects a set of two exercise attachments 20 (FIG. 6A), including two handles 24 (FIG. 7) for example, to be used for both of the exercise participant's arms or legs. However, an exercise participant may also select a set of one exercise attachment 20 (e.g., or one arm, one leg, the neck, etc.), with an inverted “T-shaped” handle or an extended handle as described above for two-hand gripping. Or an exercise participant may select a set of more than two exercise attachments 20, (e.g., four exercise attachments 20, with four handles 24 for both arms and both legs, etc.).

The circular fitness apparatus 10 can also be used from standing, sitting, squatting position and other positions by groups of exercisers or individual exercisers.

The circular fitness apparatus 10 allows a wide variety of exercise movements including those targeted to
the major and minor muscle groups of the human body. The methods described herein are usable for individual or group exercise activities comprising health based, skill based and functional based fitness activities.

[0170] Moving around the circular fitness apparatus 10 enables an exercise participant to train in a multi-planar environment, which may enable the exercise participant’s body to become stronger and more efficient in every day activities. Core integrated movement patterns require balance and stability, due to the constant changing of positions on the circular fitness apparatus 10 which occur during the duration of a training session. Such balance and stability combined with large movement patterns as opposing forces result in a challenging and unique way of group exercise training.

[0171] Opposing forces of each exercise participant are equalized on the circular fitness apparatus 10, thus creating an additional type of training element and camaraderie within the group.

ILLUSTRATIVE USE OF THE CIRCULAR FITNESS APPARATUS

[0172] FIG. 11 is a photograph 120 illustrating use of the circular fitness apparatus 10 of FIG. 1 and Method 98 of FIG. 9. FIG. 11 illustrates a snapshot at one instance of time of use of the circular fitness apparatus 10 in a simultaneous selected direction of movement from a standing position by plural exercise participants (e.g., with Method 98). The circular fitness apparatus 10 can also be used from a sitting position and other positions and with other movements as was described above.

[0173] FIG. 12 is a photograph 122 illustrating one exemplary embodiment of the circular fitness apparatus 10 of FIG. 1.

[0174] The methods described herein can also be used by one individual exerciser.

[0175] In such an embodiment, the individual exerciser selects one or more exercise attachments 20 and follows the steps of the methods.

[0176] It should be understood that the methods and apparatus described herein are not related or limited to any particular type of materials unless indicated otherwise.

[0177] Various combinations of general purpose, specialized or equivalent materials and components may be used with or to perform operations in accordance with the teachings described herein.

[0178] In view of the wide variety of embodiments to which the principles of the present invention can be applied, it should be understood that the illustrated embodiments are exemplary only, and should not be taken as limiting the scope of the present invention. For example, the steps of the flow diagrams may be taken in sequences other than those described, and more fewer or equivalent elements may be used for the components described in the block diagrams.

[0179] The claims should not be read as limited to the described order or elements unless stated to that effect. In addition, use of the term “means” in any claim is intended to invoke 35 U.S.C. §112, paragraph 6, and any claim without the word “means” is not so intended.

[0180] Therefore, all embodiments that come within the scope and spirit of the following claims and equivalents thereto are claimed as the invention.

I claim:

1. A circular fitness apparatus, comprising:

   a vertical pole attachable to one or more attachment points;

   one or more mounting brackets attached to the vertical pole including a plurality of attachment points for attaching a plurality of exercise attachments, wherein the attached plurality of exercise attachments allows simultaneous group or individual exercises to be completed at various locations around the vertical pole and wherein each of the plurality of attachment points can be used to attach a plurality of exercise attachments;

   a plurality of exercise attachments attachable at one end to the one or more mounting brackets, attachable at another end to a handle attachment, wherein the plurality of exercise attachments provide a plurality of different levels of resistance for exercise activities; and

   a plurality of handle attachments attachable to the plurality of exercise attachments, wherein the plurality of handle attachments include a pre-determined size large enough to allow an exercise participant to complete a physical activity via the vertical pole while changing positions without interfering with any of an exercise participant’s body parts.

2. The circular fitness apparatus of claim 1 further comprising a flat base with a hollow component at a center point to attach the vertical pole.

3. The circular fitness apparatus of claim 1 wherein the base includes a plurality of legs for additional stability.

4. The circular fitness apparatus of claim 1 wherein the plurality of legs include a plurality of legs with a horizontal orientation or a vertical orientation.

5. The circular fitness apparatus of claim 1 wherein the vertical pole is attachable at one end to a first fixed surface and mounted at another end to a second fixed surface.

6. The circular fitness apparatus of claim 1 wherein the first fixed surface and second fixed surface includes a floor, wall or ceiling.

7. The circular fitness apparatus of claim 1 wherein the vertical pole comprises a single solid pole or a single hollow tube.

8. The circular fitness apparatus of claim 1 wherein the vertical pole comprises a plurality of solid poles or a plurality of hollow tubes.

9. The circular fitness apparatus of claim 1 wherein the vertical pole comprises a plurality of solid poles or a plurality of hollow tubes of a non-circular shape.

10. The circular fitness apparatus of claim 1 wherein the one or more attachment points include one or more receptacles for inserting the vertical pole.

11. The circular fitness apparatus of claim 1 wherein the vertical pole is attachable at one end to a fixed surface including a floor, wall or ceiling.

12. The circular fitness apparatus of claim 1 wherein the one or more mounting brackets are moveable to a plurality of different positions on the vertical pole.

13. The circular fitness apparatus of claim 1 wherein the one or more mounting brackets are not moveable and are fixed at pre-determined positions on the vertical pole.
14. The circular fitness apparatus of claim 1 wherein the plurality of exercise attachments include a higher modulus material covered, in whole or in part, by covering of a lower modulus material.

15. The circular fitness apparatus of claim 1 wherein the plurality of exercise attachments include a low modulus material covered, in whole or in part, by covering of a higher modulus material.

16. The circular fitness apparatus of Claim 1 wherein the plurality of exercise attachments include a solid core of a higher modulus material attached to and covered by a covering of a lower modulus material.

17. The circular fitness apparatus of claim 1 wherein the plurality of exercise attachments include a hollow tube with a plurality of layers, including first layer of a higher modulus material attached to and covered by a second layer of a lower modulus material.

18. The circular fitness apparatus of claim 1 wherein the plurality of exercise attachments include a first portion of a higher modulus material and a second portion comprising a plurality of strands of a lower modulus material placed in one or more pre-determined patterns on or around the higher modulus material.

19. The circular fitness apparatus of claim 18 wherein the pre-determined pattern includes a longitudinal pattern, a circumference pattern or a combination of a longitudinal and a circumference pattern.

20. The circular fitness apparatus of claim 1 wherein the plurality of exercise attachment includes a plurality of strands of second portion of a lower modulus material attached longitudinally to a first portion of a higher modulus at pre-determined angles.

21. The circular fitness apparatus of claim 20 wherein the pre-determined angles include zero, 90, 180 and 270 degree angles.

22. The circular fitness apparatus of claim 1 wherein the plurality of exercise attachments include a first portion of a higher modulus material and a second portion of a lower modulus material with a plurality of circumferential attachments of the lower modulus material adhered to and in contact with the first portion.

23. The circular fitness apparatus of claim 1 wherein the one or more mounting brackets are moveable up and down the vertical pole.

24. The circular fitness apparatus of claim 1 wherein the one or more mounting brackets are permanently attached and not moveable up and down the vertical pole.

25. The circular fitness apparatus of Claim 1 wherein the one or more mounting brackets include a plurality of individual attachment points, wherein each individual attachment point is used to attach only one exercise attachment.

26. The circular fitness apparatus of claim 1 wherein the one or more mounting brackets include a plurality of attachment points, wherein each of the plurality of attachment points is used to attach a plurality of exercise attachments.

27. A circular fitness apparatus, comprising:

a vertical means attachable to one or more attachment points;

one or more mounting means attached to the vertical means including a plurality of attachment points for attaching a plurality of exercise means, wherein the attached plurality of exercise means allows simultaneous group or individual exercises to be completed at various locations around the vertical means and wherein each of the plurality of attachment points can be used to attach a plurality of exercise means;

a plurality of exercise means attachable at one end to the one or more mounting means, attachable at another end to a handle means, wherein the plurality of exercise means provide a plurality of different levels of resistance for exercise activities and wherein the plurality of exercise means include a higher modulus material covered, in whole or in part, by covering of a lower modulus material; and

a plurality of handle means attachable to the plurality of exercise means, wherein the plurality of handle means include a predetermined size large enough to allow an exercise participant to complete a physical activity via the vertical pole while changing positions without interfering with any of an exercise participant’s body parts.

* * * * *