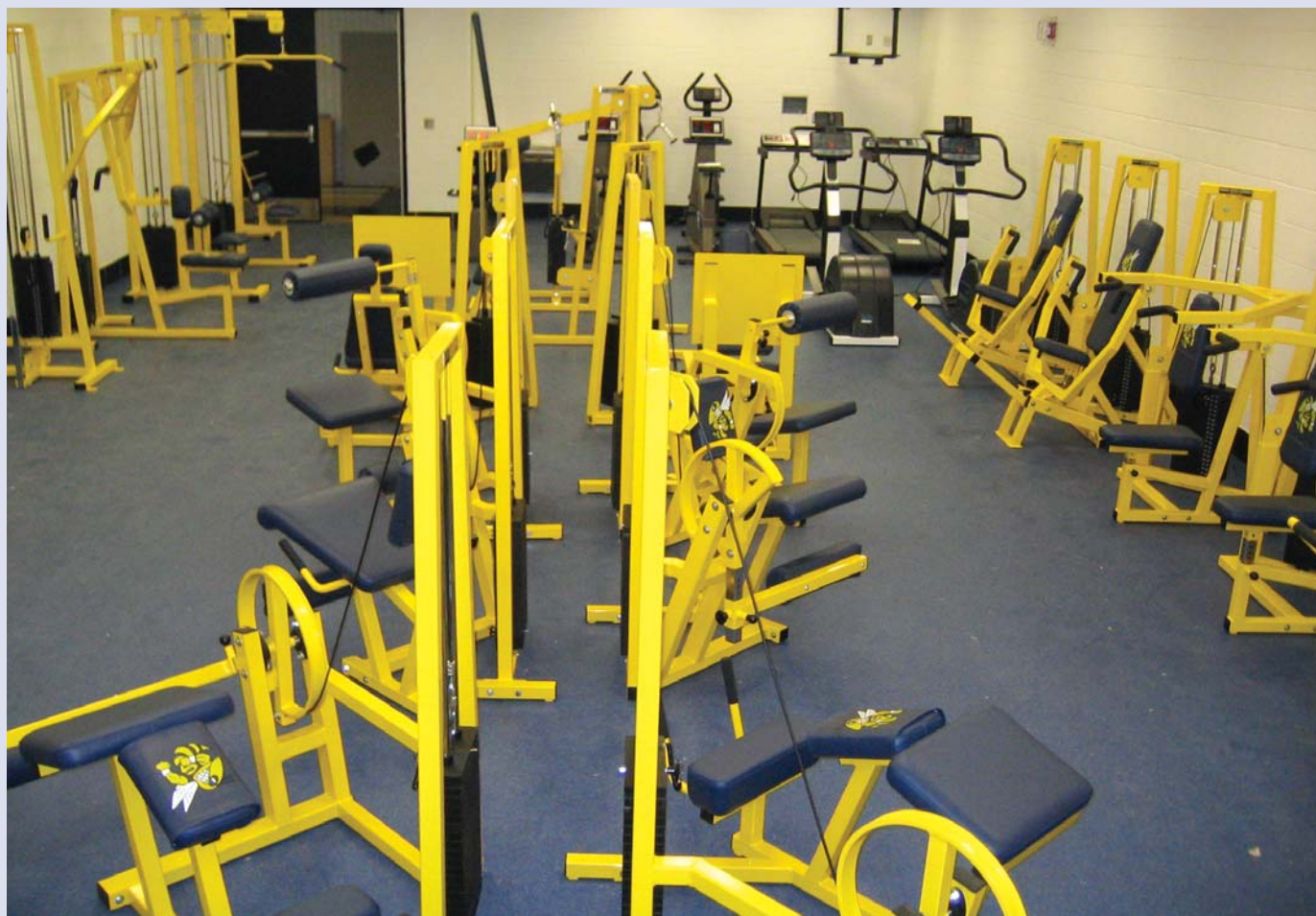


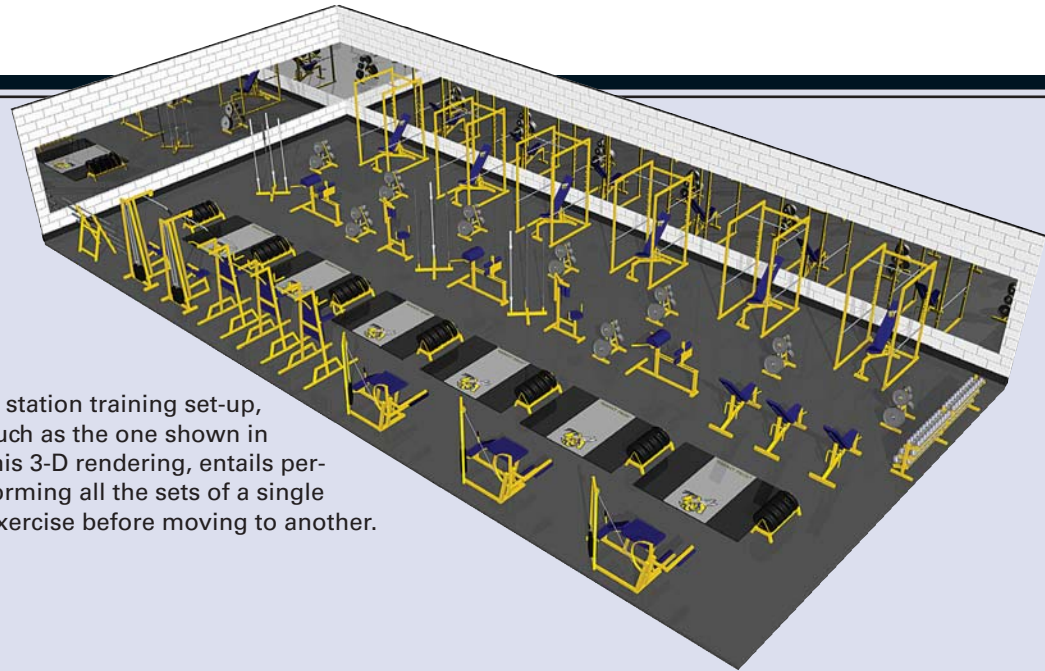
Short-Circuit Your Training

When it comes to training, *everything old is new again*

BY RICK ANDERSON, VICE PRESIDENT, BFS



Circuit training set-ups, such as the one shown here at Saline High School in Saline, Michigan, are popular in many school fitness programs.



A station training set-up, such as the one shown in this 3-D rendering, entails performing all the sets of a single exercise before moving to another.

We're in the age of retro. I can remember in the '60s when buzzed crew cuts were cool. Now hair isn't just short, it's completely shorn. What about the Beatles—isn't it ironic that in the '60s they were making millions, and today, after a 20-year hiatus and the deaths of John Lennon and George Harrison, the group is still making millions? And the moves of today's hip-hop dancers can't help but conjure images of my friends and me putting our left foot in and right foot out doing the hokey-pokey.

It's just the nature of things: what goes around, comes around. In the fitness world, circuit training is making, shall we say, another circuit.

Circuit training was first formalized in 1953 by physiologists at the University of Leeds in England as a way to integrate several components of fitness. In contrast to conventional "station" training, which entails performing all sets of an exercise before moving to another, circuit training consists of performing one set of a series, or "circuit," of exercises. For example, one circuit could consist of performing 10 repetitions of bench presses, 10 repetitions of leg presses, then 10 repetitions of chin-ups. The use of weight stacks that enabled you to change resistance by moving a pin, rather than changing weight plates, dramatically increased the efficiency of this type of training.

In the '60s, circuit training hit it big as high schools and colleges purchased the revolutionary jungle gyms that consisted of several workout stations. PE instructors could hold a class and, usually with the help of a whistle to signal when to change stations, have the entire class of students exercising at once. And in today's litigious society, for instructors who are not trained in proper lifting and spotting techniques, a circuit with machines is absolutely the way to go.

In the '70s, circuit training got a boost at the health club level when Arthur Jones introduced his single-station Nautilus machines and their time-efficient training. In the '80s, circuit training went the way of the Hula-Hoop. Now, circuit training is back and better than ever, coinciding with the popularity of women's

clubs such as Curves and Lady of America.

Circuits are also popping up in grade schools, with exercise machines that use hydraulic fluid to create resistance. Hydraulic resistance offers several important benefits for children that are not available when using free weights or selectorized equipment. One such benefit is self-accommodating resistance (SAR), which is the concept that the amount of force that a person exerts on the lever is the amount of force he or she receives in return. "With SAR, children are not in danger of overloading themselves because they will never be challenged with a resistance beyond their current level of strength," says Phil Arney, research director of Youth Fitness Solutions, Inc., a company that produces hydraulic exercise machines for children. This built-in safeguard does not diminish the machines' effectiveness, Arney notes, because the resistance provided by the hydraulic cylinder is sufficient "to stress the muscles and cause significant physiological changes."

Versatility at Its Best

Although there are many types of circuit training, the two basic types you'll see used can be classified as aerobic circuits and anaerobic circuits.

TRAINING & EQUIPMENT

Aerobic circuits are characterized by short rest intervals (30 seconds or less) and emphasize fat loss and muscular endurance. This is the type of circuit that has become popular in women's health

Anaerobic circuits are characterized by longer rest intervals (1-2 minutes) and emphasize the development of strength and muscle mass.

clubs. Here is a sample of an aerobic workout that combines lower-body aerobics with upper-body weights: stationary bike, bench press, cross country ski machine, seated row, treadmill running, dumbbell shoulder press and stair climber.

Anaerobic circuits are characterized by longer rest intervals (1-2 minutes) and emphasize the development of strength and muscle mass. Here is a sample anaerobic circuit that alternates

lower-body and upper-body exercises: stationary bike warm-up, leg press, bench press, leg curl, lat pulldown, calf raise and seated row. These exercises can also be arranged so that big muscle

groups are followed by smaller muscle groups: stationary bike warm-up, leg press, leg curl, bench press, lat pull-down, seated row and calf raise.

Athletes wishing to gain body-weight often use forms of circuit training, but the question remains: Does circuit training stimulate muscle growth better than priority training? To find out, exercise physiologists at Louisiana State University in Baton Rouge con-

ducted a 16-week experiment. Subjects were divided into two groups: one that was required to perform an arm routine with the exercises arranged in superset fashion, and another that performed the same exercises and set-rep schemes arranged in the conventional manner. Arm measurements were taken throughout the experiment, and after 16 weeks the researchers found no significant difference in muscular gains between the two groups.

Short-Circuiting the BFS Program

The reality of many athletic programs is that budget constraints may prevent schools from purchasing large circuit training set-ups, or lack of space to training time may make this unfeasible. A practical alternative is to perform "short circuits" after completing all the core exercises in a program. A short cir-

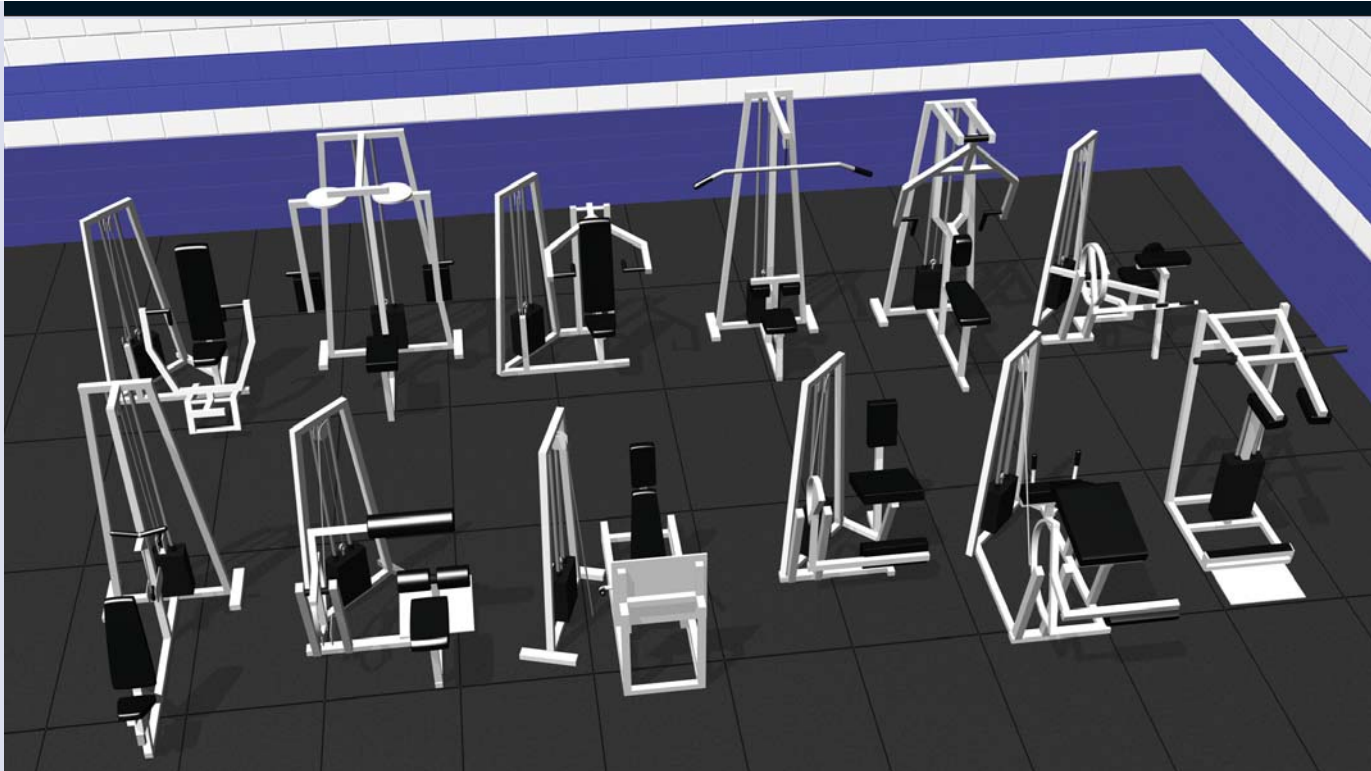


PHOTO BY BECCA PRONCHICK

The Lady of America Health Club in Napa, California, has a variety of selectorized equipment so that members can move from one station to another faster, which is important in circuit training.



Aerobic circuits combine weight training exercise with aerobic exercises such as treadmill running.



The best way to perform traditional circuit training programs is to set up stations so that the trainee can quickly move from one exercise to another.

cuit, as its name implies, is a group of single stations designed for a specific purpose, such as injury prevention or sport-specific training.

Short circuits fit in with the BFS program, and are in fact a great way to organize your standard BFS auxiliary lifts. As a general guideline, never perform more than five auxiliary lifts in a short circuit as it will detract from the time and energy required to do the necessary sprinting, stamina, flexibility, plyometrics, agility and technique work required for a sport.

Selection of auxiliary lifts for a short circuit depends on choosing those that will help you win in competition or help prevent specific injuries. For example, neck exercises are extremely important to football players and wrestlers. However, neck exercises are not that important to basketball or baseball players, so you should select an auxiliary that is important for your purposes. (A word of caution: Short circuits should not be used for exercises that involve a

TABLE 1: Sport-Specific Short Circuits

Football Short Circuit

- Neck Exercise
- Glute-Ham Raise
- Heavy Dips
- Straight-Leg Deadlift

Sprinting Short Circuit

- Lunge
- Incline Bench Press
- Straight-Leg Deadlift
- Leg Curl

Swimming Short Circuit

- Shoulder Press
- Lat Pulldown
- Leg Extension

considerable amount of technique or that can be performed with relatively heavy weights. The shortened rest periods fatigue you faster, and moving quickly to the second exercise diminishes your concentration – factors that can increase the risk of injury. So if you're thinking of making a short circuit of squats followed by power cleans fol-

lowed by deadlifts, don't!

Our BFS clinicians rated 100 auxiliary lifts and came up with a list of preferred lifts. These are our top ten:

1. Neck Exercise
2. Leg Curl
3. Leg Extension
4. Glute-Ham Raise
5. Heavy Dips
6. Incline Bench Press
7. Lunge
8. Straight-Leg Deadlift
9. Lat Pulldown
10. Shoulder Press

Using just these lifts, you could divide them into numerous groups for specific sports, as shown in Table 1.

The saying “The more things change, the more they remain the same” is especially true with circuit training. Although circuit training has been around for more than 50 years, the endless possibilities available with this training method ensure that your enjoyment is limited only by your imagination. **BFS**

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- Leg Curl
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- Seated Row

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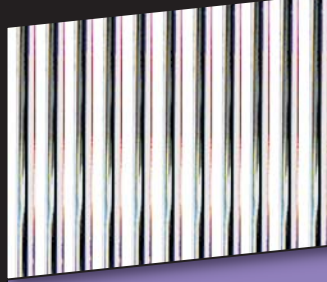
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