

BLITZ POWER WORKOUT

This method of exercise is designed to affect strength, quickness, and endurance. The progress in each area can be tracked with very simple documentation.

POWER = Strength x Speed. Both are affected in this method. Based on your present quickness (reaction times) and starting with your present strength levels. Strength will be increased without loss of quickness.

TENDON AND LIGAMENT STRENGTH - As muscle grows and strengthens much faster than these tissues, the results of many workout regimes is tendon strain and ligament tears. This method allows tendons and ligaments to strengthen under safe stress loads.

CARDIOVASCULAR FITNESS -This method of exercise increases the aerobic capacity while strengthening the muscles.

ENDURANCE -Exercise with high repetitions to increase endurance while increasing strength at the same time. Enhanced anaerobic capacity.

PAINLESS (or near painless) The high repetition and low resistance of this system creates a high cardiovascular workout and assists in the removal of lactic acids from the exercised muscle groups, as well as not causing micro-tears within the muscles fibers. This effectively eliminates Delayed Onset Muscle Soreness (DOMS) from the workout.

TERTIARY MUSCLE STRENGTH - The system works to strengthen tertiary muscle fiber by exhausting primary and secondary muscle fibers at low weight loads and allowing the tertiary fibers to continue with the exercise. The strengthen of tertiary muscle fiber is the major factor in overall strength increases and increased joint stability.

TO START:

1. On a worksheet you will record the exercise, weight and repetitions per min, at three circuits per exercise. Any system of exercise machine or free weights can be used, as long as that system allows for incremental increases in weighted resistance. and does not allow too much "free" travel of weights due to momentum of reps.
2. Make a list of the exercises (muscle groups) that you are going to work on. Try to limit each circuit to six (6) to eight (8) exercises. You may want to divide exercises into circuits to be performed on alternating days. Keep in mind that each exercise will take one(1) minute to perform with 30 seconds to one minute between each exercise in a circuit. This means one circuit of eight (8) exercises can take up to sixteen (16) minutes to complete and when you progress to three circuits in one session this will require less than an hour.

THE METHOD:

1. Determine the start weight for each exercise.
1 RM (Rep Maximal) divided by 3 = start weight.
example: BenchPress: 180lbs / 3 = 60lbs (start wt for bench press)
2. List each exercise and start wt. in the order it will be performed.
3. Perform each exercise as fast as possible for a full 60 seconds. Use the entire minute and remember to attempt to perform as many repetitions as possible in the minute allowed. Count each repetition and then multiply the number of reps done in the first 15 seconds by 4. This will give you the "Goal Reps" for that exercise.

example: 56 reps for 1 min. but 22 reps the first 15 seconds equals
 $22 \text{ reps} \times 4 = 88$ as "Goal Reps"

4. List each exercise in the order it will be conducted and record the start weight and Goal Reps for that exercise.

TEST RUN:

1. Prepare all exercise stations to be used in the circuit.
2. Perform each exercise in the order listed with one minute allowed for each exercise. Use the entire minute and remember to attempt to perform as many repetitions as possible in the minute allowed.
3. Record number of reps per exercise.
4. Move to the next exercise as fast as possible and be prepared to begin it within the one minute break between exercises.
5. After the last exercise is performed look at the worksheet and note any exercise that has less than forty(40) reps for that exercise minute. This exercise weight may have to be refigured if the number doesn't change the next time this exercise is performed. (allow a second try to get accustomed to each machine.)

GOALS:

1. Increase rep speed to the established "Goal Reps" per exercise.
2. Steady and constant speed through entire Minute of exercise.
3. Do no less than six (6) different exercises in each circuit.
4. Progress sessions to three circuits per session.
5. When the Goal Reps are reached through 3 circuits of an exercise, increase the weight of that exercise by twenty percent (20%) . (Note:

Should rep speed drop below 40/min then decrease weight used.)

OTHER INSTRUCTIONS:

1. After having progressed weights for 5 to 6 weeks, Rep speed can be increased by small increments instead of increasing the weight. Also quicker movements increase **POWER**.
2. Test increases in strength every couple of weeks with a 1RM of each area of exercise.
3. You may wish to monitor and record blood pressure and pulse rates before and after each session.

The Sixties

This method of exercise is designed to affect strength, quickness, and endurance. The progress in each area can be tracked with very simple documentation. Results = **Power!**

Power – Strength x speed. Both are affected in this method. Based on your present quickness (reaction times) and starting with your present strength levels. Strength will be increased without loss of quickness.

Cardiovascular Fitness – This method of exercise increases the anaerobic and aerobic capacity while strengthening the muscles.

Endurance – Exercise with high repetitions to increase endurance while increasing strength at the same time. Enhanced aerobic and anaerobic capacities.

Painless – (or near painless) The high repetition and low resistance of this system creates a high cardiovascular workout and assists in the removal of lactic acids from the exercised muscle groups, as well as not causing micro tears within the muscle fibers. This effectively eliminates delayed onset muscle soreness (DOMS) from the workout.

METHOD:

1. Select 6 – 8 exercises.
2. On a worksheet, record the exercises, in a circuit.
3. Determine a starting weight by using 1/3 of the weight you can lift once.
4. All exercises are done at one rep per second. (i.e. 60 reps in 1 minute)
5. Any exercise that has less than forty (40) reps per minute needs to have the weight reduced to allow 60 reps per minute.

GOALS:

1. Increase rep speed to 60 reps per minute.
2. Do **no less** than six (6) different exercises in each circuit.
3. Progress sessions to three (3) circuits per session.
4. When the 60 reps per minute speed is reached through 3 circuits of an exercise, increase the weight of **that** exercise by twenty percent (20%).
(*Note: Should rep speed drop below 40 reps per minute, then decrease the weight being used.*)
5. After 8 weeks of this system, maintenance workouts can be done once a week.

INSTRUCTIONS:

1. After having progressed weights for 5-6 weeks, rep speed can be increased by small increments instead of increasing the weight. Also, quicker movements increase **POWER**.
2. Test increases in strength every couple of weeks with 1 rep max of each area of exercise.
3. Blood pressure and pulse rates can also be monitored before and after each session.

This is an example of an 8 exercise program start up day

BLITZ START UP

| Exercise | 1 RM | Start weight | 1 st 15sec reps | Reps x 1 Min | Goal Reps |
|-------------|------|----------------|----------------------------|--------------|-----------|
| Exercise #1 | 86# | 28.6# = 28# | 28 | 96 | 112 |
| Exercise #2 | 105# | 35# | 26 | 100 | 104 |
| Exercise #3 | 66# | 22# | 32 | 117 | 128 |
| Exercise #4 | 180# | 60# | 23 | 58 | 92 |
| Exercise #5 | 75# | 25# | 33 | 121 | 132 |
| Exercise #6 | 88# | 29# | 22 | 64 | 88 |
| Exercise #7 | 90# | 30# | 25 | 87 | 100 |
| Exercise #8 | 76# | 25# | 17 | 61 | 68 |

1. $1RM / 3 = \text{start weight}$ (Round down on start weight.)
2. $1^{\text{st}} 15 \text{ seconds} \times 4 = \text{Goal Reps}$
3. Compare 1 min reps to Goal Reps is good indicator of initial endurance.

.BLITZ Numbers and What they Relate

| Goal Reps | Weight | REPS | REPS | REPS |
|-----------|--------|------|------|------|
| 100 | 60# | 76 | | |
| 100 | 60# | 90 | 82 | |
| 100 | 60# | 100 | 92 | 90 |
| 100 | 60# | 100 | 112 | 102 |
| 100 | 60# | 39 | | |
| 100 | 60# | 96 | 54 | |
| 100 | 60# | 54 | | |

1. Endurance is reasonable - continue
2. Endurance is improving, strength is improving.
3. Strength is good, endurance is continuing to improve
4. Strength and endurance is good. Advance weight x 20%.
5. This indicates weight is too great and or endurance is very low.
Need to reduce weight to achieve at least 40 Reps/ min
6. Low endurance. Weight is ok. Continue to progress
7. Similar to # 5 but weight is good, endurance is low.

What do these BLITZ numbers mean ?

| Goal Reps | Weight | REPS | REPS | REPS |
|-----------|--------|------|------|------|
| 100 | 60# | 82 | | |
| 100 | 60# | 90 | 82 | |
| 100 | 60# | 100 | 92 | 90 |
| 100 | 60# | 100 | 112 | 102 |
| 64 | 60# | 39 | | |
| 100 | 60# | 39 | | |
| 100 | 60# | 54 | | |

Blitzing is done at such a high rep rate that many pieces of equipment are not appropriate for use. Best results are with cable machines like Bow Flex, Weider Crossbow, Weider Cross Bar platinum, Bio flex. Keiser pneumatic equipment, and Power tech leverage type equipment.

The reason standard stack weights don't work well is because of the high speed of reps, which cause the weights to free float and limit the rep speed. Free weights work well but care in exercise design requires eliminating gravity and ensuring full range of motion.

Some detail on the different Machines. The Blitz system requires detailed weight increases as you progress, and these increases will require 1# increments. With that being the case you may have to use 1 a 2 pound wrist weights to correct the weight.

1. Bow Flex uses power rods that provide 5# incremental increases.
2. Weider Cross Bow uses 10# resisted bars; will need to have 5# and \$ one # wts for each arm additional.
3. Weider Cross Bar platinum has 1# incremental changes electrical Box to set resistance.
4. Bio Flex has 10# increments on a slide bar. (very smooth and fast)
5. Keiser equipment is pneumatic controlled at 1# increments. (excellent machines)
6. Power Tech equipment uses a lever system and plate weights, so weights can be applied as needed. Good machines but may be too heavy at starting weights.
7. Bow Flex Revolution, looks to be a good option.

There are likely to be more machines that will work, but will have to be researched further. This is just a list to give ideas for setting up a gym, or finding similar equipment.

Blitz info

Presently we are trying to standardize the Blitz routines. This will make it easier for the back room to set up and run each patient when therapists ask for Blitzing.

As present we have a **Knee Blitz** that consists of the following:

1. Biodex Machine programmed for "blitz knee" x 1 min
2. Leg press machine --- Heel Raises (done 1/3 wt x 1 min)
3. Crunches on Cybex done same.
4. Impulse machine (start low weight and progress up) with 1 min drills.
Seated ER, seated IR, Standing Hip extensions, standing hip flexion.
All are done 1 min

This is a seven event circuit to be done three times.

For the **Shoulder Blitz** we do the following:

1. UBE done 1 min forward setting of 60 rpm/ 140 target and progress.
2. UBE done 1 min backward setting of 60 rpm/ 140 target and progress.
3. Cybex Lat pulls done 1 min drills
4. Crunches on Cybex done same
5. Gravitron dips 1 min drills
6. Biceps curls on Pulleys 1 min drills (except SLAP)
6. Alternate- ER/IR on Impulse machine