2014 Westerville Strength and Conditioning Program

A well-balanced diet will provide all the nutritional and caloric needs of an individual. Since hockey players are constantly burning off calories and breaking down tissue, the food they need is food that supplies all the nutrients necessary for repair, growth and energy. The foods in a well-balanced diet fall into four major groups: milk group, meat group, fruit/veggie group, and grain group.

These food groups fulfill the body's needs for protein, fat, carbohydrates, vitamins, and minerals, which are

the basic nutrients needed by the body. For athletes such as hockey players, carbohydrates would be the major source of intake, at least 50%, followed by protein and fat intake. On the average, the basic diet should consist of approximately 10-20% protein, 20-30% fat and 50-70% carbohydrates. Protein is found throughout the body and serves numerous functions:

- Maintain and repair body tissues
- make hemoglobin that fight infection and disease
- To supply energy during starvation
- Form antibodies that fight infection and disease

Fat is also found through the body and serves several functions:

- Insulates nerves and body tissue
- Forms the cell walls
- Protects internal organs
- Concentrated source of energy

As mentioned earlier, carbohydrate intake should be about 50-70% for the athlete. Minimum protein intake should be .8 grams per kilogram body weight, but it has been recommended that athlete under heavy stress, both physically and emotionally, take in approximately 2.0 grams per kilogram body weight. The remaining calories should be supplied by manipulating fat intake.

Adjustments in caloric intake are most easily manipulated by fat intake as fat supplies more than twice the energy value per gram as either carbohydrates or protein. Fat contains 9 Kcal per gram as compared to carbohydrates or protein which supply 4 Kcal per gram each.

Carbohydrates, as mentioned, should be the main staple in the diet since they spare protein from being used as energy and facilitate the use of fats as energy. Once the carbohydrate source are drained from the body, fats can no longer be used as an energy source and the athlete experiences exhaustion.

This chart includes the basic diet, the training diet and the carbohydrate loading diet. The hockey player would naturally follow the training diet during the course of the season, but in the off-season, alterations must be made for decreased energy expenditure. (See chart: What You Nee To Know About A Training

Diet.)

DAILY ENERGY RECOMMENDATIONS FOR NORMALLY ACTIVE MALES

Males Age (years)	Energy Needs Total Energy Kcal	Calories Per Pound
11-14	2700	27
15-18	2800	19
19-22	2900	19
23-50	2700	18
51-75	2400	16
76+	2050	13

To determine actual caloric needs, refer to the cart “Daily Energy Recommendations For Normally Active Males” above. In addition to these basic requirements, the hockey player will need to keep track of additional calories consumed during training and add these to the basics.

Hockey players should allow about 600-800 Kcal per hour extra for caloric expenditure. So if a 19-22 year old 200 lb. Hockey player plays intensely for 2 hours, he would determine his age related daily energy expenditure (200 lb. x 19 Kcal += 3800 Kcal), then add approximately 1600 Kcal (800 Kcal/hr.) to compensate for exercise expenditure for a total of (3800 Kcal + 1600 Kcal = 5400 Kcal).

To insure that an athlete is meeting both nutritional requirements and maintaining adequate hydration levels, they should be weighed daily prior to breakfast, post urination and without clothing. This will insure accurate and consistent measurements by minimizing error.

The spacing and number of meals per day is also a major factor associated with hockey players. Research suggests that eating fewer and larger meals (2-3 per day) impairs glucose tolerance and increases body weight and fat content.

It is suggested that athletes eat 3 moderate meals-breakfast, lunch and dinner-and interspersed among these meals are 3 snacks in order to increase the consumption of added calories required for training.

The best way to obtain all the required nutrients is to eat a well-balanced diet. For athletes requiring excess calories to facilitate training/competition, eating larger portions and snacks that are well balanced will also allow proportional increases in nutrients.

How to Gain Quality Weight

Basics:

1. There are two ways to gain body weight:

a. Consume more calories than you burn off (diet).

b. Burn off fewer calories than you consume (less exercise).

Since we want to continue high intensity exercise, (b) is not feasible. Consuming more calories is the best way; however, the type of high calorie food is important. Constantly eating "junk" food will put weight on but not in the form of lean body weight. Fat weight is counterproductive; it costs more energy just to move it around.

Foods such as fresh fruits, grain products, and most vegetables are high in carbohydrates (and calories) but have a nutritional bonus of extra vitamins and minerals. Get your carbohydrates from these sources.

Avoid foods and drugs that are non-nutritious: coffee, tea, soft drinks, alcohol, non-therapeutic drugs. Consuming these substances is like putting water in your car's gas tank.

2. Eat at least 3 equally spaced balanced meals a day, preferably 5 meals a day or 3 meals and snacks or supplements.

3. Eat a daily adequate amount of the four basic food groups.

a. Bread and Cereals- 4 servings

b. Fruits and Veggies- 4 servings

c. Meat, Fish, Eggs and Poultry- 2 servings

d. Milk and Milk products- 2 servings

4. Eat a variety of foods. You have a better chance of getting all the necessary nutrients and variety lessens boredom.

5. Sugars are of no nutritional value and should be de-emphasized or eliminated from your diet: soda pop, candies, sugar etc...

Basic Weight Gain Program Tips

1. Eat a quality breakfast.

2. Bring sandwiches such as tuna fish or peanut butter with a thermos of milk to be used as a mid-morning or mid-afternoon snack.

3. Eat a sandwich before going to bed.

4. Nutritional supplements may be used, but are not a necessity.

5. Never miss a weight-training workout.

6. Keep regular hours with plenty of rest, 9 hours is optimal.

7. Eat a couple of pieces of fruit as often as possible. 6-10 daily; each piece has approximately 100 calories of carbohydrates and nutrients.

Eat Breakfast

1. Baylor University forced the football team to eat breakfast and gained 12 lbs per man.

2. You will be more alert, more productive and react faster.

3. You are getting muscle stimulation now. You need the extra building material now.

4. You WILL gain weight.

Remember - An athlete with a large percentage of muscle and a small percentage of body fat will perform more efficiently.

Proper routine eating has a long-term effect on your health

• Keep away from saturated fats!

• Keep away from animal fats! (lard, bacon fat, etc...)

• Keep away from fats that are solid at room temperature!

• Healthy fats are liquid at room temperature!

ie: Olive oil, peanut oil, Fleisschman's Sunflower Margarine.

Fat takes a longer time to digest and is high in calories.

IMPORTANT DAILY ROUTINE EATING HABITS

FATS

1. Stay away from saturated fats (beef fat, pork fat, lamb fat, butter and cream).

2. Use fat that is liquid at room temperature.

3. Fish and Chicken (without the skin) are low fat protein.

4. Red meat provides the best source of iron that is quickly depleted through sweating.

5. Eat lean red meat. ie: Filet Mignon, lean hamburger. Liver is lean and contains plenty of iron.

6. Don't eat fried foods- the food reabsorbs the fat.

7. Your diet should contain between 60-65% carbohydrates. ie: pasta with tomato sauce, lean meat sauce.

8. Use low fat cheese with Kraft dinner, noodles, lasagna or pizza.

9. Use low fat dairy products. ie: Skim milk, low fat yogurt (cheapest ice cream is the best for you because it contains lower percent of cream.)

10. The only recommended processed meat contains less than 5% fat.

11. Stay away from ham- its high in fat and salt.

12. Buy low fat white or yellow cheese.

13. Use skim milk powder or ultra temp. milk in coffee. Coffee whitener is not recommended because it contains a high level of saturated fat ie: Coffee Mate.

<u>COFFEE</u>

1. Coffee one hour prior to a game time can be helpful. It activates the level of free fatty acid.

2. No coffee in between periods.

SUGAR

1. Avoid high sugar intake prior or during a game. This could result in a low blood sugar, fatigue more quickly (producing a drowsy feeling).

2. Drink water, non-sugared drinks during the game.

3. Diluted orange juice is a sufficient electrolyte replacement (potassium, sodium) after a game.

<u>IRON</u>

1. Hockey players lose a lot of iron through sweating.

2. The best way to add iron to your diet is through lean red meat.

3. Cream of Wheat is a very good source of iron.

VITAMINS

1. Unless you cannot eat or do not want to eat much or have become anemic, vitamins supplements are unnecessary.

CALCIUM

1. The best way to add calcium to your diet is through skim milk, low fat cheese, low fat yogurt and cottage cheese.

ALCOHOL

1. Alcohol is a diuretic. It will dehydrate you even more.

2. Alcohol and no food after a game or workout are detrimental. It slows down the recovery process whereby your glycogen stores are replenished.

Cut down on:

- Chinese food with MSG
- Packaged food
- Processed meat like ham
- Hot dogs
- Instant soups
- Dip on veggies
- Bacon
- Potato chips
- Pretzels
- High fat burger meat
- Skin on chicken

RECOMMENDED MEALS:

Breakfast

(YOU MUST EAT BREAKFAST)

1. Instant Oatmeal
2. Yogurt
3. Whole grain cereal
4. Skim milk
5. Whole grain wheat bread
6. Pancakes

7. French toast

8. Cream of Wheat

9. Fruit

Pre-Game Meal

1. Fruit

2. Fresh vegetables with no salt, homemade soup

3. Salad with low calorie dressing

4. Baked potato

5. Rice (brown rice preferably)

6. Vegetables without dip

7. Complex Carbohydrates:

• Spaghetti/fettuccini with lean meat sauce

• Spaghetti/fettuccini with clam/tomato sauce

8. French toast

9. Pancakes (regular syrup, but low or no butter)

10. Whole wheat bread

Avoid Fats- takes longer to digest (ham or items that are high in fat and salt).

Snacks

1. Fruits

2. Veggies without dip

3. Low fat yogurt

4. Tuna fish sandwiches

5. Low fat cheese sandwich (look for 7-11% fat cheese)

6. Popcorn without butter

7. Raisins

8. Dry roasted nuts

9. Oatmeal and raisin cookies

10. Low-fat cheese Pizza

11. Low-fat Cottage Cheese

12. Instant oatmeal

HOW TO LOSE BODY FAT

Basics:

1. You can't "spot reduce". If you are to lose body fat, you lose fat from all over your body- mid section, legs, arms etc...(Sweatsuits, belts, etc. Do not work).

2. There are two ways to lose body fat:

a. Burn off more calories than you consume (exercise).

b. Consume FEWER calories than you burn off (eating modification).

A Combination of exercise and proper diet should prove very efficient in reducing body fat.

An athlete during heavy exercise periods can lose only two pounds of fat each week. If you lose more than two pounds, you are losing fat and lean body mass (muscle). There are approximately 3,500 Calories to one pound of fat.

Reduce the number of calories consumed daily by 500 and in one week's time you will lose one pound of fat (in 10 weeks; 10lbs. of fat). Reduce your caloric intake by 500 calories and add 500 calories of exercise a day and you will lose 2 pounds of fat a week (in 10 weeks; 20 lbs. of fat).

Other Suggestions:

1. Eat a salad or baked potato before your meal-(watch the salad dressing, sour cream, butter, etc...). Then eat a low fat, low caloric meal.

2. Do not "clean your plate, eat only until satisfied.

3. Ride or jog. LSD (long-slow-distance) burns body fat. An extra 30 minutes a day of riding or jogging will pay big dividends on the ice.

4. Never miss a workout.

5. Do not eat before going to bed at night.

Remember: An athlete with a large percent of muscle and a small percentage of body fat will perform more efficiently.

FLEXIBILITY

FLEXIBILITY

Flexibility refers to the ability to move body parts around a joint, through its full range of motion (R.O.M.). Many exercise programs do not provide adequate flexibility, and run the risk of future injury. Flexibility can be improved through a systematic daily stretching routine, which should be done BEFORE and AFTER any workout or exercise bout. Flexibility exercises are designed to stretch certain muscles and reduce the likelihood of injury to the myo-tendon unit. Stretching before activity is essential for immediate gains in flexibility and safety, but the best time to stretch for long-term gains in flexibility is after games, practices and training sessions. Following activity, a muscle's temperature is at its highest, allowing for easier stretching. Stretching after activity also reduces delayed muscle soreness and helps your muscles recover from exercise.

A common myth holds that strength and lean muscle mass gains decrease flexibility. However, if a muscle is stretched on a regular basis gains in both areas can be achieved.

A case in point is Shawn Antoski. At 246 pounds, he had the largest muscle mass on the Vancouver Canucks and was the second strongest player on the team. He was also the fastest and by far the most flexible-even more flexible than the goaltenders.

<u>Hockey Specific Flexibility</u>

Areas of the body of special concern to hockey players, when it comes to flexibility, are the hamstring and the lower back region. Skating is a bent leg activity and few players actually fully extend their rear leg when pushing off each stride and as a result the hamstrings are rarely stretched to their full length. If muscles are not used to their maximum length, they will shorten which over time will lead to back injuries or groin pulls. Increased flexibility at the hips, groin, hamstrings and thighs will not only prevent injury but will also improve skating speed and agility.

Special preventive attention is needed in the lower back region because hockey players skate with a slight back flexion, which places demands on lower back strength and flexibility. Without specific preparation, the lower back will not withstand the continual isometric contraction of the back extensors in the skating position or the stressful twisting actions that occur during a game, such as a forceful truck rotation when shooting. Fighting through checks and warding off opponents also places a lot of stress on the lower back region.

Remember these Stretching Points

1. Always warm-up a muscle for 5 to 10 minutes before stretching. Stretching a cold muscle can cause minor muscular damage and decrease flexibility. The warm-up increases the deep core muscle temperature, improving the muscle's elasticity and lubricating the joint. DO NOT STRETCH COLD

MUSCLES

2. Isolate the muscle to be stretched with very strict technique. Do not "cheat" and alter the exercise slightly just to stretch farther.

3. Move slowly and smoothly through the stretch. Fast movements will cause the muscle to contract (to protect itself). Receptors within your muscles where they attach to bones can sense the rate of lengthening. If the receptors sense a rapid lengthening, they will tell the muscle to contract, to protect itself from lengthening too fast.

4. DO NOT OVER STRETCH – Most athletes try to stretch as far as possible, straining to move farther into the stretch. This may seem logical, but the receptors in your muscle and at the muscle tendon attachment also sense how far the muscle is being stretched. Straining a joint beyond its range of movement only causes the muscle to contract to protect itself from being stretched too far. Stretching across a contracted or tight muscle ultimately leads to the formation of inelastic scare tissue. You need to stretch a relaxed muscle, not a contracted muscle. Hold the stretch in a comfortable position. You should feel only a slight tension in the muscle, which should subside as you hold the position. If it does not subside, back off to a more relaxed position.

5. Hold the stretch in a static position without bouncing or moving. Remember – stretching a muscle too quickly, bouncing or holding a stretch as far as you can go causes an involuntary muscle action, which tightens the very muscles you are trying to relax and stretch.

6. Hold each stretch for a minimum of 30 seconds and optimally up to one minute. The longer you hold an easy stretch the more likely the muscle will relax and loosen.

7. Inhale before you move into a stretch, exhale as you move into and through the stretch and then continue to breathe normally and freely as you hold the stretch. If a stretched position inhibits your natural breathing pattern, you are not relaxed and are likely straining. Ease up until you can breathe naturally. Take full relaxed breaths, and NEVER HOLD YOUR BREATH.

8. Progress to development stretching. The initial "easy stretch" is designed to help relax the muscle. If your muscle was comfortable during this stretch, you can move another half inch for a longer stretch. Move farther into the stretch until you again feel a slight tension. The tension should subside. If not, back off to a more comfortable position. Similar to the initial stretch, as you increase the range of motion (progressing deeper into the stretch), exhale slowly.

9. Come out of each stretch as slowly and smoothly as you went into it.

10. Stretch consistently. Regular daily stretching is needed for improvement.

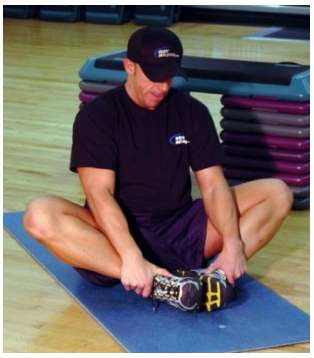
<u>Stretching Routine</u>

• The routine is to be followed for each warm-up and cool down.

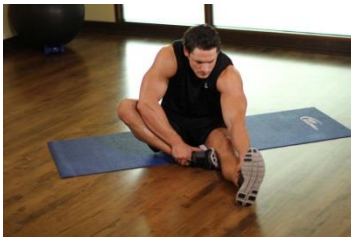
If you stretch correctly and regularly, you will find that every movement you make becomes easier. It will take some time to loosen up tight muscles or muscle groups, but time is quickly forgotten when you start to feel good.

Start each workout with a 5 minute stationary bike ride to warm up muscles. Then complete each of the following stretches

- Butterfly groin stretch
    - X2 feet together pulled towards your body as close as possible
    - X2 feet together pushed as far out as possible



- Seated Hamstring Stretch
    - Pull right leg in towards body (as if doing butterfly groin stretch) and extend left leg to the side of your body. Lean to the left and touch toes.
    - Stretch each leg twice



- Knee Hugs
    - While lying on back, pull right knee towards your chest. Left leg should be straight.
    - Complete each leg twice

- Hamstring extension
    - While lying on back, pull right leg towards you while keeping leg as straight as possible.
    - Complete each leg twice

- Hip Flexor
    - Start on right knee. Keep your back straight with your left leg in front of you. Lean forward while keeping weight on left heel. Each leg twice.

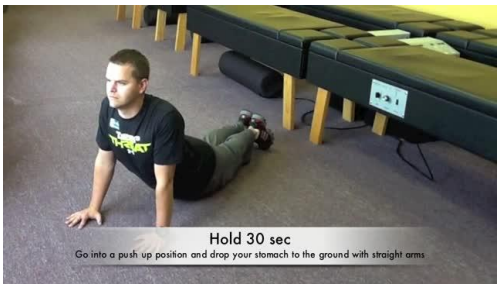
- Crossover pull
  - While seated, cross right leg over left and pull right knee towards your chest
  - Do each leg twice.

- Shoulder pulls
  - Right arm across your chest, pull with left
  - Each arm twice.

- Triceps push down
  - Right arm behind your head, push with left arm on elbow towards back.
  - Each arm twice.

- Chest stretch
    - While seated reach both arms behind you and touch the floor. Complete twice

- Core stretch
    - While lying on stomach push shoulders back and hold. Complete twice.



Strength training

WEIGHT TRAINING FOR HOCKEY

The Goal of our summer weight and conditioning program is to make you a better hockey player by improving your functional capabilities. We are not interested in building a competitive power lifter or body builder, even though increased strength is certainly a benefit. The bigger, stronger, faster, more powerful the athlete, the better are his chances of success in hockey. To be the best hockey player you can be, you must work on these 5 skills:

Strength training must be held in the proper perspective.

If strength training consumes your total workout time, you are hurting your other attributes, and you will not be a better hockey player.

STRENGTH TRAINING FOR HOCKEY

A solid base of strength and lean muscle mass supports a player's physical abilities and technical skills and is a prerequisite to anaerobic conditioning, power, quickness, agility, and speed. Strength assists such skating skills as acceleration, cornering, stopping and starting, pivoting, shooting, and dynamic balance. Increased size and strength are also important for body checking and defending opponents.

Upper-body strength contributes to shooting and puck control as well as warding off opponents. Strength through the chest, shoulders, arms and back is used during body checking, to clear the slot or when containing your opponent against the boards.

Leg Strength is important to skating strides, acceleration, turning, and stopping. It contributes to first-step also relies on strong legs. Weight shifts upward during a body check, with 75% of the power coming from the legs. Building the leg muscle mass lowers the body's center of gravity, assisting dynamic balance and stability, enabling a player to skate through resistance from opponents. Lowering the center of gravity also allows a player to bend their knees more to make tighter turns. A player with a big upper body and no legs will fall over in tight, high-speed turns.

Torso Strength serves as the body's base as it is the pillar from which all movement stems. The torso initiates, assists, and stabilizes movement. Every on ice action relies on the abdominals, lower back and hip region. Every stride, from the drive phase to the recovery phase, relies on torso strength. Quick turns and directional changes on the ice come from the legs, lower back, abdominals and hips. All on-ice strength, power, speed, quickness, and agility stem from the torso out of the legs and arms.

Strength is never a negative

1. Lack of flexibility, often associated with lifting weights, is not a result of strength training if proper training techniques are performed and stretching is an integral part of your daily workout program.

2. Remember, if some is good, more is NOT better. This applies to weight training too! Over training causes performance to suffer, lost time, fatigue and injuries. Follow the workout assigned in this booklet and be alert for the signs of over training.

Strength is the Key element in:

1. Power- As our brilliant engineers will tell you Power = Strength/Time. A more powerful athlete can start and stop quicker, hit harder, and dominate opponents.

2. Speed- Speed is highly correlated with specific strength. As the specific strength of an athlete improves, the greater his potential for speed.

3. Agility-Our body control is aided by strength. Strong hips and legs allow the athlete to start, stop and change directions quickly.

4. Injury Prevention- The stability of a joint is enhanced by the strength of the muscle that surrounds the joint. Research indicates that the strength of bones, ligaments and tendons is improved through strength training. Well-trained muscles, when injured, respond much faster to rehabilitation than a lesser-trained muscle.

Tips For Weight Training

Evaluate your Training Facility- This will dictate which exercises and how many exercises in your program you will be able to do. Use the equipment that is available in your local area. If you don't have weight machines, you will have to adjust and use free weights or vice versa. If you do not have either free weights or machines you will have to perform manual resistance.

Sets and Reps- A "rep" is defined as one complete movement from starting point back to starting point. A group of continuous reps are known as a "set". Our lifting program will generally begin with low reps and heavy weight, which is best for muscle strength and power, then proceed to high reps with moderate weight, which will build local muscular endurance. As you gain strength, you must progressively increase the weight being lifted. (Progressive-overload). We would like to see a 5 to 10 lbs. weekly increase in the amount of weight lifted.

Technique and Breathing- Pay close attention to proper techniques for each exercise (see section following this). You will not only maximize your lifting potential, but minimizing the chance of injury.

Avoid breath holding during lifting exercises. The general rule is- breath OUT on the hard part of the exercise, breathe IN on the easy part of the exercise. Never hold your breath while doing an exercise.

Warm-up and Flexibility- Warm-up before exercising; light jogging or rope jumping are sufficient. You should perform 10 to 15 minutes of warm-up before stretching. Following the warm-up you should perform the stretching routine as stated in this booklet.

Exercise All Major Muscle Groups- Do at least one exercise for each major muscle group (i.e.: Quads/ Buttocks/Chest/etc.) Work your largest muscle masses first (buttock/back/quad) and proceed to the smallest (calves, forearms). Alternating upper and lower body parts may help you recover between sets.

Regularity of Exercise- Your body needs 48 hours of rest between intense exercise bouts for recovery. INTENSITY is the Key to Weight Training- Conditioning improvements are directly proportional to the intensity with which your train. DO NOT MISS TRAINING WORKOUTS and train with someone who will motivate you.

The program is designed to build strength and endurance in the major muscles of the body. Keep in mind that you are training for hockey and not body building. The Summer Weight Training Program consists of three phases. For complete descriptions of how to complete each lift safely, visit:

http://ssmhockey.org/files/2012/01/Summer_Workout_Program_04-13-2011.pdf

Phase One Week One

Monday		Tuesday		Thursday		Friday	
Overhead Squat		Bench Press		Hurdle Jumps		Incline Bench Press	
X 8	Bar	X10		X8		X12	
X8	Bar	X10		X8		X12	
X8	Bar	X10		X8		X12	
Squats		Chin Ups		Front Squat		Wide Grip Pull Up	
X10		X 10	BW	X8		X10	BW
X10		X10	BW	X8		X10	BW
X10		X10	BW	X8		X10	BW
Manual Gluteham		D.B. Incline		RDL		D.B. Bench Press	
X8		X10		X8		X10	
X8		X10		X8		X10	
X8		X10		X8		X10	
						X10	
Lunge		Front Lat. Pull-down		Bench Squat		Inverted Row	
X8		X12		X8		X10	
X8		X12		X8		X10	
X8		X12		X8			
SLRDL		Swiss Ball Shoulder		Leg Curls		D.B. Lat.Raise/Front Raise/ Rear Raise X12 each exercise.	
X6		X10		X12			
X6		X10		X12			
X6		X10		X12			
Abs- Pick 2		Stationary Bike 30 mins.		Abs-Pick 2		Run/Jog-30 mins.	
Stretch/Cool Down		Stretch/Cool Down		Stretch/Cool Down		Stretch/Cool Down	

Phase One Week's 2-4

Monday		Tuesday		Thursday		Friday	
Overhead Squat		Bench Press		Hurdle Jumps		Incline Bench Press	
X8	Bar	X8		X8		X10	
X8	Bar	X8		X8		X10	
X8	Bar	X8		X8		X10	
		X8				X10	
Squats		Chin Ups		Front Squat		Wide Grip Pull Up	
X8		X10	BW	X8		X10	BW
X8		X10	BW	X8		X10	BW
X8		X10	BW	X8		X10	BW
X8		X10	BW	X8		X10	BW
Manual Gluteham		D.B. Incline		RDL		D.B. Bench Press	
X8		X10		X8		X10	
X8		X10		X8		X10	
X8		X10		X8		X10	

X8	X10	X8	X10
Lunge X8 X8 X8 X8	Front Lat. Pull-down X12 X12 X12	Bench Squat X8 X8 X8 X8	Inverted Row X10 X10 X10
SLRDL X6 X6 X6	Swiss Ball Shoulder X10 X10 X10	Leg Curls X12 X12 X12	DB Lateral/Front/Rear Raise 12 reps each
Abs-Pick 2	Stationary Bike 30-mins.	Abs-Pick 2	Jog 30 Mins
Stretch/Cool Down	Stretch/Cool Down	Stretch/Cool Down	Stretch/Cool Down

Phase One-

- Always begin with proper warm up
    - 5-10 minutes on bike
    - Dynamic warm-up (pregame warm-up for returning players)
        - Butt kicks X2
        - High Knees x2
        - Walking Lunges x2
        - High Kicks x2
        - Skips for Height x2
        - Sprints x2
        - Use about 10 yards for dynamic warm-up
- All exercises should concentrate on form and technique in this phase as opposed to weight
- Workout with partner if possible for spots and motivation
- PUSH YOURSELF

Phase 2: 4 weeks

Monday	Tuesday	Wednesday	Thursday	Friday
Overhead Squat X8 X8 X8	Bench Press X8 X8 X8	Split squat jump X6 X6 X6	Squat Jump X8 X8 X8	Box jumps X10 X10 X10
Squat X10 X10 X10	Wide Grip Pull Ups X5 X5 X5 X5	Skate hop X8 X8 X8	Front squat X8 X8 X8	Single Leg Hop/height X6 X6 X6
Manual Gluteham X5 X5 X5 X5	Close grip Bench X5 X5 X5	Broad jump X6 X6 X6	Incl. Bench X10 X10 X10	Squat jump 3X :45 Sec.
Single Leg Squat X6 X6 X6	DB Row X8 X8 X8	Squat jump X6 X6 X6 X6	Chin ups X5 X5 X5	Single leg hop (front-back) 4 X :30 sec
Leg Curls X10 X10 X10	Front/lateral/rear raise X12 each	1 foot lateral hops 4 X :30 sec (each leg)	RDL X6 X6 X6 X6	10 yd. sprint X 5
Bike sprints 20 min	Abs pick 2	Bike 45 mins.	DB Shoulder X8 X8 X8	40 yd. sprint X5
Stretch/cool down	Stretch/cool down	Stretch/cool down	Plank x2-Failure Stretch/cool down	Cool down/stretch

Phase 2 keys:

- Continue good form
- Weeks 2-4 add 1 additional set of squat, bench press, chin ups
- Use attached chart to find appropriate weight
- Use 5-10 minute bike ride/jog and dynamic warm-up before each workout
- Do not skip cool down stretches
- Bike sprints- 5 minute warm up, 10 min. sprint (:20 sprint :40 recover) 5 minute cool down

Phase 3- 4 weeks

Monday	Tuesday	Wednesday	Thursday	Friday
Overhead Squat X8 X8 X8	Bench Press X10 X8 X6 X4	Squat Jump 5 X :30 sec.	Lateral Jump X8 X8 X8	Box jump 4 X :30 Leg raises 4 x15
Squat X10 X8 X6 X4	Chin Ups X10 X10 X10 X10	Skate Hops 5 X 6 each leg *stick landing*	Front Squat X4 X4 X4 X4	Single Leg Box Jump 4 X * Crunches 4 x 25
RDL X4 X4 X4 X4	DB Close Grip X6 X6 X6 X6	Broad Jump 4 X 8	Incline Bench X6 X6 X6 X6	Front/back quick hops 4: 30 sec.
Barbell Lunge X4 X4 X4	Inverted Row X8 X8 X8	Single Leg squat jump 4 X :30 sec	Lat Pulldown X8 X8 X8 X8	Side to side quick hops 4X :30
Leg Curl X10 X10 X10	SwissBall Shoulder X10 X10 X10	Box Jumps 4 X 10	Manual Gluteham X5 X5 X5 X5	Plank to failure
Bike sprints 20 min	Planks 2 x failure	Bike 45 min	DB front/lat/rear raise x8 each	Bike sprints 20 min
Stretch/cool down	Stretch/cool down	Stretch/cool down	Stretch cool down	Stretch cool down

Phase 3 keys

- FORM, FORM, FORM
- Workout with a spotter
- After 1st week, bench and squats go to 8/6/4/2 progression
- Bike and dynamic warmup before each workout
- Don't skip cool down
- PUSH yourself and your team mates

AB Exercise Options:

- Situps
- Leg raises
- Hip hikes
- Planks
- Medicine ball twists
- Ab roller
- Toe touches
- Swiss ball crunch
- Side planks

With the exception of planks, pick 2 per workout when instructed and do 4 sets of 25 or to failure.

TRAINING LOAD CHART

Max reps (RM)	1	2	3	4	5	6	7	8	9	10	12
% 1RM	100%	95%	93%	90%	87%	85%	83%	80%	77%	75%	70%
Load	10	9.5	9.3	9	8.7	8.5	8.3	8	7.7	7.5	7
	20	19	18.6	18	17.4	17	16.6	16	15.4	15	14
	30	28.5	27.9	27	26.1	25.5	24.9	24	23.1	22.5	21
	40	38	37.2	36	34.8	34	33.2	32	30.8	30	28
	50	47.5	46.5	45	43.5	42.5	41.5	40	38.5	37.5	35
	60	57	55.8	54	52.2	51	49.8	48	46.2	45	42
	70	66.5	65.1	63	60.9	59.5	58.1	56	53.9	52.5	49
	80	76	74.4	72	69.6	68	66.4	64	61.6	60	56
	90	85.5	83.7	81	78.3	76.5	74.7	72	69.3	67.5	63
	100	95	93	90	87	85	83	80	77	75	70
	110	104.5	102.3	99	95.7	93.5	91.3	88	84.7	82.5	77
	120	114	111.6	108	104.4	102	99.6	96	92.4	90	84
	130	123.5	120.9	117	113.1	110.5	107.9	104	100.1	97.5	91
	140	133	130.2	126	121.8	119	116.2	112	107.8	105	98
	150	142.5	139.5	135	130.5	127.5	124.5	120	115.5	112.5	105
	160	152	148.8	144	139.2	136	132.8	128	123.2	120	112
	170	161.5	158.1	153	147.9	144.5	141.1	136	130.9	127.5	119
	180	171	167.4	162	156.6	153	149.4	144	138.6	135	126
	190	180.5	176.7	171	165.3	161.5	157.7	152	146.3	142.5	133
	200	190	186	180	174	170	166	160	154	150	140
	210	199.5	195.3	189	182.7	178.5	174.3	168	161.7	157.5	147
	220	209	204.6	198	191.4	187	182.6	176	169.4	165	154
	230	218.5	213.9	207	200.1	195.5	190.9	184	177.1	172.5	161
	240	228	223.2	216	208.8	204	199.2	192	184.8	180	168
	250	237.5	232.5	225	217.5	212.5	207.5	200	192.5	187.5	175
	260	247	241.8	234	226.2	221	215.8	208	200.2	195	182
	270	256.5	251.1	243	234.9	229.5	224.1	216	207.9	202.5	189
	280	266	260.4	252	243.6	238	232.4	224	215.6	210	196
	290	275.5	269.7	261	252.3	246.5	240.7	232	223.3	217.5	203
	300	285	279	270	261	255	249	240	231	225	210
	310	294.5	288.3	279	269.7	263.5	257.3	248	238.7	232.5	217
	320	304	297.6	288	278.4	272	265.6	256	246.4	240	224
	330	313.5	306.9	297	287.1	280.5	273.9	264	254.1	247.5	231
	340	323	316.2	306	295.8	289	282.2	272	261.8	255	238
	350	332.5	325.5	315	304.5	297.5	290.5	280	269.5	262.5	245
	360	342	334.8	324	313.2	306	298.8	288	277.2	270	252
	370	351.5	344.1	333	321.9	314.5	307.1	296	284.9	277.5	259
	380	361	353.4	342	330.6	323	315.4	304	292.6	285	266
	390	370.5	362.7	351	339.3	331.5	323.7	312	300.3	292.5	273
	400	380	372	360	348	340	332	320	308	300	280
	410	389.5	381.3	369	356.7	348.5	340.3	328	315.7	307.5	287
	420	399	390.6	378	365.4	357	348.6	336	323.4	315	294
	430	408.5	399.9	387	374.1	365.5	356.9	344	331.1	322.5	301
	440	418	409.2	396	382.8	374	365.2	352	338.8	330	308
	450	427.5	418.5	405	391.5	382.5	373.5	360	346.5	337.5	315
	460	437	427.8	414	400.2	391	381.8	368	354.2	345	322
	470	446.5	437.1	423	408.9	399.5	390.1	376	361.9	352.5	329
	480	456	446.4	432	417.6	408	398.4	384	369.6	360	336
	490	465.5	455.7	441	426.3	416.5	406.7	392	377.3	367.5	343
	500	475	465	450	435	425	415	400	385	375	350

- Training load chart can be used to calculate estimated 1-repetion maximum (1RM) values from multiple repetitions completed
  - For example, if an athlete completes 8 repetitions of the squat at 160 lbs, the estimated 1RM would be 200 lbs.
- Training load chart can also be used to assign intensity percentages for program design
  - For examaple, if an athlete's 1RM for the squat is 200 lbs, he/she should be able to successfully complete 10 repetitions of 150 lbs, or 75% max intensity.

Adapted from Landers, J. Maximum based on reps. *NSCA J* 6(6):60-61, 1984.

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