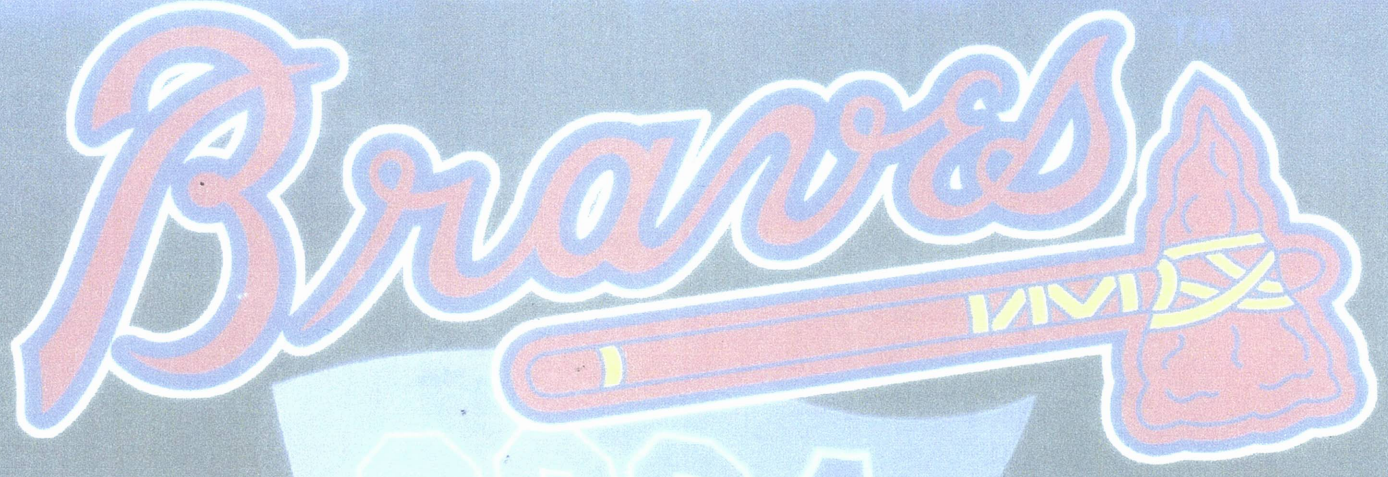


Johnny Estrada
2004 Silver Slugger

Bobby Cox
2000th Career Victory
2004 NL Manager of the Year

Andruw Jones
2004 Gold Glove



2004

**ATLANTA BRAVES
2005-2006 Off-Season
Minor League
Strength & Conditioning Manual
(Position Players: C, 1B, 3B, LF, RF)**

13 CONSECUTIVE DIVISION I TITLES

FOREWARD

We hope that everyone has had a successful season and has been able to make it through healthy. We are now entering a part of the year where we can increase our performance on the field by what we do off the field. It will take a large degree of consistency and a strong work ethic to make these changes for the better. This time is used to work on those areas we are deficient in the most and to further the things that have made us successful. No one aspect your game is more important than the other. Whether it be power, strength, endurance, flexibility, quickness, agility or straight ahead speed, all parts must be emphasized and paid attention to.

The off-season is broken down into four parts:

1. *Immediate post-season.* Rest, rehabilitation and reconditioning are important for wellness and the eradication of any season-nagging injuries.
2. *Endurance - conditioning phase.* The implementation of high reps and light weights along with cardiovascular training is the basis to create a solid foundation.
3. *Strength phase.* Lower reps and heavier weights are used to create strength and lean muscle gains. A very aggressive effort to vastly improve weight increment levels during these workouts is prime importance during the strength phase. Cardiovascular training slowly shifts towards more sprint and baseball specific conditioning.
4. *Power phase.* Reduction of the number of reps and sets and more emphasis on power and explosion is the basis of the final off-season phase.

The demands to see significant changes in size and strength are challenging. The reduction in body fat, decreased sprint times and increased size, strength and flexibility can all lead to better on field performance. Strong, consistent work habits, strict adherence to the program and short, intense workouts will yield positive changes.

Sincerely yours,

FOREWARD

OFF-SEASON PROTOCOL

1. All players must follow a position-specific, baseball-conditioning program as defined and illustrated in this manual.
2. Baseball conditioning workouts will begin October 1, 2005.
3. Baseball conditioning workouts are required 5-6 times weekly (Monday – Saturday).
4. Baseball conditioning workouts will be conducted at player chosen fitness centers near off-season residences.
5. Players should seek the advice and guidance of selected strength and conditioning coaches in order to perform the 2005-2006 Atlanta Braves Minor League Off-Season Strength & Conditioning Program
6. Written documentation of the exercise workout models is required.
7. Individual exercise workout cards will be forwarded monthly for evaluation.
8. Failure to return monthly exercise workout cards will result in immediate notification of the Atlanta Braves front office.

**REMINDER – MAIL IN WORKOUT CARDS AT THE END OF EACH MONTH
TO:**

STRENGTH TRAINING

The most important thing to remember when following the strength program is that the off-season is *the* time for physical improvements. As most of you know from experience, the schedule in baseball will not permit a high level of intensity in the weight room in-season to allow proper recovery. Therefore, NOW is the time to heighten your intensity in your strength & conditioning program.

A TRAINED MUSCLE IS LESS LIKELY TO BE INJURED, HAVE LESS SEVERITY, AND RECOVER MORE RAPIDLY.

A FEW TIPS:

- Form and technique are rule #1 in the weight room; this is important for PERSONAL SAFETY, beneficial to maintaining your range of motion, and maximizing muscle benefits.
- Higher weight and lower reps (no less than 6) will produce more strength, power, mass, and weight gain.
- Lower weight and higher reps (no more than 20) will produce more endurance, lean muscles, and weight loss.
- DO NOT perform any overhead pressing movements and/or behind the neck pull downs.

LOWER BODY STRENGTH:

BENEFITS:

Increased balance, power, speed, agility and flexibility are the goals of increasing lower body strength. Every baseball player can benefit from greater lower body strength.

PERFORM:

- Sprint Training
- Agility Training
- Plyometric Training
- Functional Training

CORE BODY STRENGTH:

(Abdominals [Upper Sect., Mid. Sect., Lower Sect.], Low Back, Obliques, Hips, Thighs, Gluteals)

BENEFITS:

Increased balance, power and torque. The hip flexors, glutes, adductor/abductors, abdominals, obliques, and lower back muscles are crucial ingredients in the success of a

baseball player regardless of position. These muscles play a key role in running, rotating to hit or throw, maintaining balance, and stopping/starting.

PERFORM:

- Throwing / Hitting
- Abdominal Training/Med Ball Training
- Agility Training
- Functional Training
- Weight Training (Lunge, 4 Way Hip, Low Back Extensions, Abdominal Training, Trunk Rotations)

UPPER BODY STRENGTH:

BENEFITS:

Increased strength and flexibility throughout chest, upper back, shoulders, biceps, triceps, forearms and hands; Safeguard critical muscle groups utilized in throwing and swinging.

PERFORM:

- Hitting / Throwing
- Weight Training
- Rotator Cuff Program
- Bodyweight Exercises; i.e. pull-ups & push ups

FLEXIBILITY:

A crucial ingredient that is overlooked all too often in baseball is flexibility. While we practice stretching every day, some players do better than others on working to improve. Like anything else, what you put into it is what you get out of it.

A FEW TIPS:

- Stretch before and after workouts every day.
- A 5-10 min. warm-up will help to improve pliability of muscle tissues and range of motion of joints.
- Get a complete and full stretch each time taking at least ten minutes to perform your stretch routine.
- Deep, relaxed breathing; In through the nose, out through the mouth.

NUTRITION:

The 50 – 30 – 20 Diet is highly recommended:

Carbohydrates – 50%

Carbohydrates are the most vital ENERGY SOURCE utilized by your body in the sport of Professional Baseball. Often, players overlook the amount of energy expenditure that is utilized in running onto/off the field, sprinting down the line, pitching, and simply doing the every day things asked of a baseball player.

FOODS TO EAT:

Pasta, Potatoes, Grain Bread, Grain cereals, Rice, Fruits, and Vegetables

Protein – 30%

Proteins are composed of amino acids, which function to promote body growth and repair. *Protein is not an energy source.*

FOODS TO EAT:

Milk, egg whites, chicken, turkey, red meat (steak), white meat (chicken breast), beans, and nuts

Fat – 20%

Fat is another vital ENERGY SOURCE, but utilized more for the body's immune system, insulation, and long term/low intensity exercise.

FOODS TO AVOID:

Fast food, Sugar/Sweets, Heavy Creams/Butter, Bacon/Ribs/Sausage, and Fried Foods

WEIGHT & BODY FAT:

The expectation for you to continue to lose body fat and gain lean muscle mass each year is in place.

TO LOSE WEIGHT:

- Increase Protein intake and lower evening carbohydrates
- Proper rest and recovery
- Increase water intake
- No eating after 7 p.m.
- NO SATURATED FATS
- Increase intensity in weight training
- Increase intensity in agility and sprint work
- Increase cardiovascular work to a minimum of 3 times per week with a heart rate range around 130 beats per minute for at least 45 minutes per session.

TO GAIN WEIGHT:

- Increase intake of protein and complex carbohydrates
- Proper rest and recovery
- Increase meals per day to 4-6, putting calories in every 2 ½ hours
- Increase intensity in weight training
- Increase intensity in agility and sprint work
- Decrease cardiovascular training

WARM-UP / FLEXIBILITY

WARM-UP

A warm-up period is important before any athletic performance; it helps protect against injury by improving flexibility of the muscles. To avoid muscular injury, athletes should raise the body's internal temperature through light activity before engaging in stretching exercises.

A total warm-up program includes the following components:

- *General warm-up* – A period which may consist of 5-10 min. of slow jogging or riding a stationary bicycle. This will help to increase heart rate, blood flow, deep muscle temperature, respiration rate, and perspiration and decreases viscosity of joint fluids. The increase in muscle temperature allows a greater amount of flexibility, which readies an athlete for the movements required your workout or game.
- *Specific warm-up* – The specific warm-up is based on the dynamic movements of the game or workout activity. It involves 8-10 minutes of activity or sport-specific movements such as a body weight leg circuit, trunk twists, arm circles, arm swings etc. The main emphasis behind engaging in such movements is to increase sport-specific flexibility.

FLEXIBILITY

It is also important to stretch prior to, and after, each workout. Flexibility plays an important role in your success and performance as an athlete. As your flexibility increases, the likelihood of sustaining an injury decreases. Partaking in a daily flexibility program will increase the range of motion throughout joints and muscles being stretched. Increased range of motion will not only aid in the prevention of injury, but will also make you more efficient on the baseball field.

When Should an Athlete Stretch?

Stretching should be performed at the following times for optimal benefits:

- *Before practice and competition.* Stretching before competition improves performance by increasing the available range of motion and improving functional abilities. Ideally, stretching should be done following a general warm-up. Stretching decreases the likelihood of injuries, particularly muscle strains, by increasing the elasticity of muscles and tendons.

- *Following practice and competition.* Post-practice stretching facilitates range of motion improvements because of increased muscle temperature; it should be performed within 5-10 min. after practice. The increased body temperature increases the elastic properties of collagen within muscles and tendons, which allows a greater stretch magnitude. Post-practice stretching may also decrease muscle soreness.

Steps to follow while stretching:

- Prior to stretching, a warm-up is necessary to increase blood circulation to enhance the stretches.

- Many segments of the body may be tighter than other body parts and may require more time and effort to obtain optimal flexibility.

- The entire body must be stretched.

- Do not stretch so far to experience pain.

- Hold each stretch for 10-15 seconds.

- Go to the point where a slight stretch is felt and hold till it loosens. Then stretch further.

- Relax throughout the stretch. **DO NOT HOLD YOUR BREATH.**

- Always remember to follow and adhere to proper form and technique while performing any stretch outlined in this manual.

WARM-UPS & STRETCH ROUTINE

WARM-UP

5-15 MIN. CARDIO

OR

5 MIN. JUMP ROPE

STRETCH ROUTINE

(EACH STRETCH WILL BE HELD FOR 15-20 SECONDS)

STANDING: UPPER BODY

NECK ROLLS – LEFT/RIGHT

STANDING TWISTS

BENTOVER TWISTS

ANGLE TWISTS

TRUNK ROTATIONS – LEFT/RIGHT

ARMS UP – LEAN LEFT/RIGHT

ARM CIRCLES – FORWARD/BACKWARD

ARM SWINGS – BACK AND FORTH

ARM ACROSS – LEFT/RIGHT

TRICEP PULLDOWN – LEFT/RIGHT

FOREARMS – FLEXION/EXTENSION

STANDING: LOWER BODY

FEET TOGETHER – TOUCH TOES

LEFT OVER RIGHT/RIGHT OVER LEFT

FEET TOGETHER – TOUCH TOES

LEGS APART – MIDDLE/RIGHT/LEFT/MIDDLE

LEAN TO RIGHT/LEFT

HIP FLEXOR – RIGHT/LEFT

GROIN STRETCH - SQUAT

SEATED: LOWER BODY

FEET TOGETHER–TOUCH TOES

LEGS APART – LEFT/RIGHT/MIDDLE

GROIN STRETCH - BUTTERFLY

LUMBAR TWIST – LEFT OVER RIGHT/
RIGHT OVER LEFT

GLUTE/PIRIFORMIS STRETCH – LEFT FOOT
TO RIGHT KNEE/OPPOSITE

RIGHT KNEE TO CHEST/STRAIGHT UP/ DROP
OVER/OPPOSITE

QUAD STRETCH – LEFT/RIGHT

CALF STRETCH – LEFT/RIGHT

STOMACH CRUNCHES – 1X20

HIP THRUSTS – 1X20

PLYOMETRICS & AGILITIES

- I. This section of the manual is geared towards agility, speed and power training. Footwork, technique and game speed training in these drills may improve the ability to change direction without the loss of body speed, strength, balance, body control, athletic timing or rhythmic movement.
- II. Speed is one of the greatest physical attributes a baseball player can possess. Speed can make a difference from making a play, to beating a throw out, to scoring the winning run.

The purpose of speed development is to develop proper running mechanics. In order to maximize speed performance, a player must recruit fast twitch muscle in a very efficient manner. The best way to work on this recruitment is to practice at running at maximal speed every time. Running is a skill and must be practiced to become efficient. The more efficient you become, the faster you will be.

Proper running mechanics can also reduce lower extremity injuries. Running with feet underneath you, will reduce breaking forces. This reduction in breaking forces puts less stress on the hamstring, which will lessen the chance of hamstring injury. Proper running mechanics may also deter lower back pain.

- III. The key to making progress with this program is to perform every drill with 100% effort. Rest approximately 2-3 minutes allowing time for full recovery between sets. Performing each full set at maximum effort is key. Below is a list Options and drills to be performed.

LEG CIRCUIT

Prisoner Squat – Feet shoulder width apart, hands behind head, squat down keeping stomach tight.

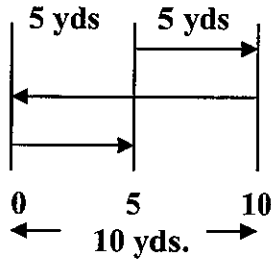
Split Squat – Start in lunge position with hands on hips, squat down and back up for the designated repetitions. Repeat with opposite leg.

Lunge – Step forward, hands on hips, keeping knee angle at 90 degrees.

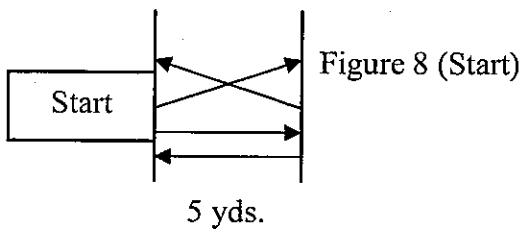
Reverse Lunge – Step backward, hands on hips, keeping knee angle at 90 degrees.

Crossover Lunge – Facing forward step across body, touch down with glove hand, return to starting position, and repeat other direction.

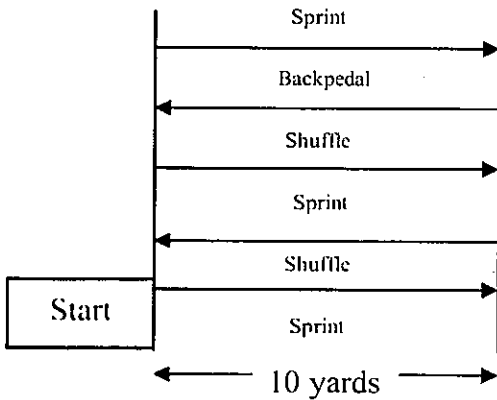
AGILITIES



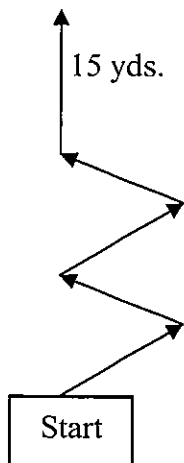
PRO AGILITY (5-10-5) – Mark off 10 yds., making lines at 0, 5, and 10 yds. Start off with right foot on the middle line (5 yd. Line). Sprint 5 yds. to the 10 yd. line, touchdown, sprint back to 0 yd. line, touchdown, and back through the 5 yd. line.



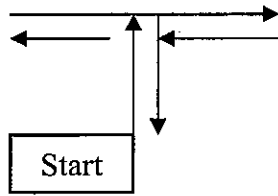
NEBRASKA AGILITY – Set up 2 cones 5 yds. apart from each other. Start on the right side of the first cone, sprint to the left side of the other cone making a figure 8. Staying tight to the cones, pivot around the second cone and sprint back to the left side of the first cone completing the figure 8, touch the cone, sprint straight back to the second cone, touch the second cone, pivot and sprint back through the first cone.



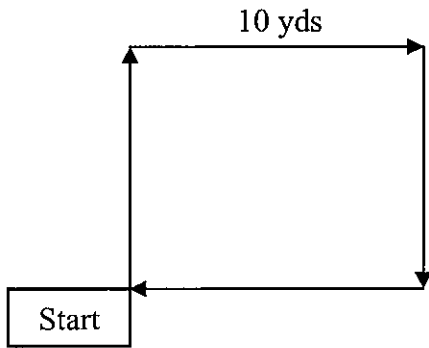
COLGATE AGILITY – (Sprint-Shuffle-Sprint-Shuffle-Backpedal-Sprint) Mark off 10 yds., you will run a total of 60 yards. **Sprint** 10 yds., pivot and **Shuffle** back 10 yds., pivot and **Sprint** 10 yds. then pivot the opposite direction of your original turn and **Shuffle** back 10 yds., **Backpedal** 10 yds., then **Sprint** through the starting line.



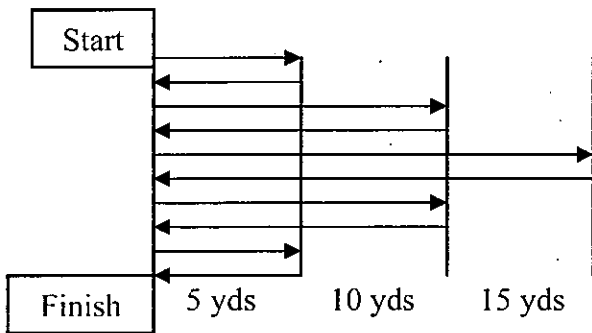
ZIG-ZAG DRILL – Make cuts outside the cones, chopping feet, sprinting from cone to cone, finishing the drill w/ a 15 yd. sprint.



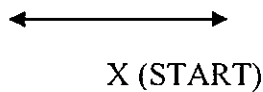
T-AGILITY – Begin by sprinting straight for 5 yds. then shuffle to the left for 5 yds., sprint right for 10 yds., shuffle back for 5 yds., then finish with a backward run. This drill should also be reversed going to right first then left.



BOX DRILL – Set cones up in a box formation (10 yds. X 10 yds.) Start in the corner by sprinting to up to the first cone, shuffle to the second cone, backpedal to the third cone, carioca to the last cone and sprint back to the first cone. This drill should also be reversed in order to shuffle and carioca in opposite directions.



LADDERS: Sprint the prescribed distances consecutively – changes in direction should be made at full speed.



LATERAL PICKUPS – Starting in an athletic position, take 2 shuffles to the right, touch the ground and 2 shuffles to the left, touching the ground. Over and back is 1.

PLYOMETRICS

Box Jumps – Start in an athletic position about 1 foot from a box you are able to jump onto safely. Jump up onto box and step back down. Repeat for designated sets and reps.

Split Jumps – Start in lunge position, jump straight up, while in the air switch legs, jump immediately upon ground contact and repeat.

2-Leg Side Hops – Use a line; jump over and back as fast as possible, keeping center of gravity over line.

Double Leg Tuck Jumps – Jump in place, bring knees to chest and repeat jumping off ground as quick as possible; landing should be soft and quick.

Power Step-Ups – Start with foot on box as if to perform a step-up. Explode upwards off that foot trying to get as high as possible, while in air switch feet, land, and jump again off other foot; box mid shin height.

Side-to-Side One Leg Box Hops – Start to the side of the box with one foot on box and one on the ground, jump to the opposite side replacing foot on box with other foot, repeat; box mid shin height.

Running Replacements – Start with one foot on box, replace foot with other foot in running manner, pumping the arms, box mid shin height.

2-Leg Lateral Box Hops – Start on side of box, jump on box (feet together), jump off box to other side, repeat; box mid shin height.

Plyometrics & Agilities (Option 1)

- | | |
|---------------------------------------|------------------|
| 1) Leg Circuit (Bodyweight) | SETSxREPS |
| a) Prisoner Squat | 2x12 |
| b) Split Squat | 2x12 |
| c) Lunge | 2x12 |
| 2) Agilities | SETSxREPS |
| a) Pro Agility | 2xs |
| b) Zig-Zag Drill w/ 15 yd. Sprint | 2xs |
| c) T-Agility | 2xs |
| d) Ladders (5-10-15-10-5 yd = 90 yds) | 2xs |
| 3) Plyometrics | SETSxREPS |
| a) Jump Rope | 5 min. |
| b) Box Jumps | 8-6 (2 Sets) |
| c) Split Jumps | 8-6 (2 Sets) |
| d) 2-Leg Side Hops | 2x15 |

Plyometrics & Agilities (Option 2)

- | | |
|--|------------------|
| 1) Leg Circuit (Bodyweight) | SETSxREPS |
| a) Split Squat | 2x12 |
| b) Reverse Lunge | 2x12 |
| c) Crossover Lunge | 2x12 |
| 1) Agilities | SETSxREPS |
| a) Nebraska Agility | 2xs |
| b) Box Drill (L/R) | 2xs |
| c) Ladders | 2xs |
| d) Lateral Pickups | 2x10 |
| 2) Plyometrics | SETSxREPS |
| a) Jump Rope | 5 min. |
| b) Double Leg Tuck Jumps | 2x10 |
| c) Power Step-Ups | 2x10 |
| d) Side-to-Side One Leg Box Hops (6 in. PlyoBox) | 2x10 |

Plyometrics & Agilities (Option 3)

- | | |
|------------------------------------|------------------|
| 1) Leg Circuit (Bodyweight) | SETSxREPS |
| a) Prisoner Squat | 2x12 |
| b) Split Squat | 2x12 |
| c) Crossover Lunge | 2x12 |
| 2) Agilities | SETSxREPS |
| a) Colgate Agility | 2xs |
| b) Box Drill (L/R) | 2xs |

- c) T-Agility (L/R) 2xs
- d) Zig-Zag Drills w/ 15 yd. Sprint 2xs

3) Plyometrics	SETSxREPS
a) Jump Rope	5 min.
b) Box Jumps	2x10
c) Replacements	2x10
d) 2-Leg Lateral Box Hops	2x10

ABDOMINAL PROGRAM

- I. This section of the manual is geared towards the abdominal and lower back area of the body. Another name for this portion of the body is the “core” or midsection. When it comes to an athletic endeavor, it is important to have this part of your physical framework as strong and well developed as possible. Often times, this area is neglected or one area is trained at much greater volume than another.

- II. How do you prevent this from happening so that a proportional balance between both areas is emphasized?
 - a. Create a balance between different movements in order develop to the “core” to its fullest potential.
 - b. Follow the schedule according to what days the program is to be performed.
 - c. Follow the proper sets and repetitions according to what each exercise calls for.

Medicine Ball Program (Option 1)

1) <u>Group 1 Exercises</u>	SETS x REPS
a) Medicine Ball Crunches	2x20
b) Medicine Ball Side Crunches (L/R)	2x15
c) V-Sits	2x20
d) Russian Twists	2x20
e) Toe Touches	2x15

<u>Group 2 Exercises</u>	SETS x REPS
a) Med-Ball-to-Toe (L/R)	2x15
b) Leg Raises	2x20
c) Scissors ← →	2x20
d) Hip Thrusts	2x20

Medicine Ball Program (Option 2)

3) Physioball Routine	SETS x REPS
------------------------------	--------------------

- | | |
|------------------------------|---------------|
| a) Physioball Crunches | Warm-Up, 2x20 |
| b) Physioball Side Crunches | 2x20 |
| c) Physioball Leg Raises | 2x20 |
| d) Physioball Hip Thrusts | 2x20 |
| e) Physioball Reverse Hypers | 2x15 |

- | | |
|--|--------------------|
| 2) Standing Medicine Ball Routine | SETS x REPS |
| a) Medicine Ball Trunk Twists | Warm-Up, 2x20 |
| b) Medicine Ball Woodchoppers | 2x15 |
| c) Medicine Ball Angled Twists | 2x20 |
| d) Medicine Ball Figure 8's | 2x15 |

Medicine Ball Program (Option 3)

- | | |
|---|--------------------|
| 1) <u>Group 1 Exercises</u> | SETS x REPS |
| a) Figure-4 Crunches
(Right leg over Left knee) | Warm-Up, 2x15 |
| b) Figure-4 Crunches
(Left leg over Right knee) | Warm-Up, 2x15 |
| c) Reach & Catch
(Lie on your back w/ knees bent; Curl your torso as high as you can by contracting your abs, extending both hands to the outside of one knee as if to catch a touchdown pass) | 2x20 |
| d) Butterfly Crunches
(Lying on your back, knees bent out to the side, heels together) | 2x20 |
| 2) <u>Group 2 Exercises</u> | SETS x REPS |
| a) Medicine Ball Crunches | 2x20 |
| b) Squirms
(With feet flat and knees bent while lying on your back, squirm from side to side reaching to tap the back of your heels) | 2x20 |
| c) Hip Thrusts | 2x20 |
| d) Superman (Back Ext.)
(On "All 4's" [Hands and knees], fully extend opposing right arm simultaneously with left leg while maintaining balance. Alternate with left arm and right leg.) | 2x15 |

NUTRITION

The next few pages will contain some guidelines in monitoring your diet, which will aid in muscle growth and overall health.

Nutrition

Proper nutrition is a widely neglected area amongst baseball players. The composition of your body is only as good as the building materials you supply it. If new materials from

a well balanced diet are not available, your body will utilize substances from other tissue. When this happens, the used tissue will not be as strong as it could have been. It is extremely important to have a well balanced diet. A good diet is comprised of about 55-65% carbohydrates, 25-35% from protein and the rest from fats.

***Proper nutrition is an important consideration for athletes who seek to maximize their performance. No diet directly increases strength, power, or endurance, but an adequate diet allows athletes to train and compete to the best of their ability.**

Food Energy

Food energy is broken down into three major categories:

CARBOHYDRATES – Main sources of energy for the body. These are especially important for short burst activities such as sprinting.

PROTEINS – Found in all cells of the body. Major functions are to promote body growth and repair. Crucial for muscle building. Proteins are composed of amino acids.

FATS – Secondary energy source used in slow, long duration aerobic exercise.

Nutritional Guidelines

- Eat low-fat, high fiber foods.
- Eat more frequent, modest sized meals. Rather than 3 big meals, try to eat 4-6 meals a day.
- Eat broiled food instead of fried.
- Snacks should be high complex carbs or foods high in protein.
- Drink plenty of water.
- Try not to eat foods high in carbohydrates after 8 p.m. Carbs suppress growth hormone at night, which is needed to repair and build muscle.
- Alcohol suppresses growth hormone, **DRINK IN MODERATION.**
- Eat a rainbow of vegetables. Different color vegetables generally indicate different vitamins and minerals.
- Don't eat an excess of fast foods.
- Eat a well balanced breakfast.

Types of Foods

Carbohydrates

Bread
Cereal
Fruits
Vegetables
Pasta
Rice

Protein

Milk
Eggs
Poultry
Meat
Beans
Nuts

Fats

Fast Food
Butter
Bacon
Sausage
Fried Foods
Pastries

TEAM MET-Rx
PERFORMANCE ATHLETE
NUTRITION OUTLINE

A) Functions of Food

- People – to provide energy to fuel the body to: grow and function efficiently
- Athletes – to provide nutrients for growth and repair of muscle tissue due to stress induced training (lifting and conditioning) = Recovery
- Eating vs. Supplementation

B) Basic Categories of Nutrients

Protein – “building block of muscle” – to repair and maintain the body’s tissues and organs and to promote muscular growth

- good sources: lean beef, chicken, turkey, and fish
- athletes need more protein than inactive people
- without adequate protein intake, muscular growth is impossible

Carbohydrate – functions primarily as an energy source

- athletic activity is fueled by a mixture of carbohydrate and fat with protein making a relatively small contribution
- the human body has a very limited ability to store carbohydrate
- carbohydrates can be classified in four general categories: simple sugars, refined carbohydrates, starch, and fiber.

Simple sugars – sources: table sugar, honey, molasses, fructose, and high fructose corn syrup

- sugar is not a desirable energy source for anyone – burns too fast
- causes your body to release a lot of insulin, which promotes fat storage

Refined carbohydrates – made from flour or other processed carbohydrate sources: bread, baked goods, pasta, and most cereals.

- refining process results in them being very rapidly digested and absorbed, thus behaving like sugar.

Starch – natural form of carbohydrate stored in plants: oatmeal, beans, corn, peas, lentils, whole grains, potatoes, sweet potatoes, and brown rice

- good energy source for athletes = slow burn
- not digested too rapidly and does not promote fat accumulation nearly as much as sugar or refined carbohydrates

Fiber – a form of carbohydrate in plants that is not digested very efficiently by humans = fewer calories

- sources: lettuce, spinach, asparagus, broccoli, cauliflower, zucchini, oat bran, onions
- very important because it slows down the release of insulin when digesting starches limiting amount to be stored as fat
- aids in all digestion (helps prevent colon cancer).

Fat – sources: oil butter, margarine, cream, nuts and peanut butter, mayonnaise, egg yolks, salad dressings and anything fried

- primary role is supply energy (not as good a fuel as carbohydrates)
- it is best to avoid saturated fats (mainly animal fats)
- good fats to use include olive oil and canola oil

C) **Designing Your Athletes' Nutrition Program**

What is the optimal ratio of carbohydrate, protein, and fat?? 50% - 30% - 20%.

Two (2) important considerations:

- 1) Diet must supply an adequate number of calories to allow the athlete to perform optimally.
- 2) Diet must supply an adequate amount of protein.

Basic Formula to determine daily caloric intake

12 kcal per 1 lb. of body weight

Macro-nutrient ratio for Baseball athletes

50% Carbohydrate 30% Protein 20% Fat

Two (2) simple strategies:

- 1) Meal structuring – refers to the composition of each individual meal. Each meal should be balanced according to the recommendations above.
- 2) Meal patterning – refers to how meals are consumed throughout the day
 - Goal – five (5) or six (6) smaller meals spaced evenly throughout the day = a more uniform supply of nutrients for recovery, glycogen restoration and energy levels.

D) **Nutrition Programs for Specific Goals**

- Diet changes depending on:
 - metabolism (influenced by age & activity)
 - genetics
 - sport being played
 - training regimen (amount of training)

- General guidelines:

Gain Weight – training hard but failing to gain weight

1. One reason – not eating enough calories
2. Increase caloric intake by 300 calories per day above basic requirements. If after a week or two he is still not gaining weight, increase calories again by another 300 per day. Continued to increment calories until the athlete gains one pound every one to two weeks.
 - Quality of the food matters just as much as the quantity
 - Thinner athletes – better gains from carbohydrate
 - Fatter athletes – better gains from protein

Lose Fat – most effective strategies are:

1. To change the diet so that the athlete consumes less carbohydrate and more protein.
 - Lower carbohydrate intake will reduce insulin levels and promote the utilization of stored body fat as energy
2. To increase energy expenditure by performing more exercise
 - Additional exercise per day (30-45 minutes of fairly intense aerobic activity)
 - If you decrease caloric consumption after a few weeks, your metabolic rate slows down to match the new, reduced level of intake, and weight loss stalls.
 - Aim for a weight loss goal of one pound per week

E) Troubleshooting

- If athlete is losing weight unintentionally, he needs more calories; increase both protein and carbohydrate intake.
- If athlete is losing strength and seems over-trained, increase protein intake.
- If athlete becomes fatigued before the competition is over, increase carbohydrate intake both before and after workouts.
- If athlete is performing resistance training but is failing to make gains in both muscularity and strength, increase protein intake.
- If athlete is gaining fat, decrease carbohydrate intake.

F) Successful Eating Tips for Your Athletes

- Treat your body like an engine
- Be Disciplined: Eat + train towards your goal
- Don't rely on one diet menu; change the content to get a variety of nutrients
- Ask questions / Learn from others.

GENERAL NUTRITIONAL GUIDELINES FOR PERFORMANCE ATHLETES TO LOSE WEIGHT / BODY FAT

$$\frac{8-10 \text{ CALORIES X BODY WEIGHT (} \underline{\hspace{2cm}} \text{ LBS.)}}{\text{*start with 10 calories and adjust } \underline{\text{down}} \text{ if necessary}} = \underline{\hspace{2cm}} \text{ (Total \# of Calories / day)}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .40 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Protein / day)}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .45 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Carbohydrate / day)}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .15 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Fat / day)}$$

100%

$$\text{Total \# of calories of } \underline{\text{Protein}} \text{ per day } \underline{\hspace{2cm}} / 4 \text{ (1g of Protein = 4 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Protein}} \text{ per day } \underline{\hspace{2cm}}$$

$$\text{Total \# of calories of } \underline{\text{Carbohydrate}} \text{ per day } \underline{\hspace{2cm}} / 4 \text{ (1g of Carb = 4 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Carbohydrate}} \text{ per day } \underline{\hspace{2cm}}$$

$$\text{Total \# of calories of } \underline{\text{Fat}} \text{ per day } \underline{\hspace{2cm}} / 9 \text{ (1g of Fat = 9 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Fat}} \text{ per day } \underline{\hspace{2cm}}$$

MEAL PLANNING

* Divide the total # of grams of “**Protein, Carb and Fat**”
evenly into 5 meals throughout the day

** Per Meal Nutrient Breakdown

_____ grams of **Protein** per meal
_____ grams of **Carbohydrate** per meal
_____ grams of **Fat** per meal

GENERAL NUTRITIONAL GUIDELINES FOR PERFORMANCE ATHLETES TO MAINTAIN CURRENT WEIGHT

$$\frac{10-12 \text{ CALORIES X BODY WEIGHT (} \underline{\hspace{2cm}} \text{ LBS.)} = \underline{\hspace{2cm}}}{\text{*start with 12 calories and adjust } \underline{\text{down}} \text{ if necessary} \hspace{15em} \text{(Total \# of Calories / day)}}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .35 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Protein / day)}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .50 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Carbohydrate / day)}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .15 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Fat / day)}$$

100%

$$\text{Total \# of calories of } \underline{\text{Protein}} \text{ per day } \underline{\hspace{2cm}} / 4 \text{ (1g of Protein = 4 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Protein}} \text{ per day } \underline{\hspace{2cm}}$$

$$\text{Total \# of calories of } \underline{\text{Carbohydrate}} \text{ per day } \underline{\hspace{2cm}} / 4 \text{ (1g of Carb = 4 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Carbohydrate}} \text{ per day } \underline{\hspace{2cm}}$$

$$\text{Total \# of calories of } \underline{\text{Fat}} \text{ per day } \underline{\hspace{2cm}} / 9 \text{ (1g of Fat = 9 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Fat}} \text{ per day } \underline{\hspace{2cm}}$$

MEAL PLANNING

* Divide the total # of grams of “**Protein, Carb and Fat**”
evenly into 5 meals throughout the day

** Per Meal Nutrient Breakdown

_____ grams of **Protein** per meal
_____ grams of **Carbohydrate** per meal
_____ grams of **Fat** per meal

GENERAL NUTRITIONAL GUIDELINES FOR PERFORMANCE ATHLETES TO GAIN WEIGHT / SIZE

$$\frac{12-15 \text{ CALORIES X BODY WEIGHT (} \underline{\hspace{2cm}} \text{ LBS.)} = \underline{\hspace{2cm}}}{\text{*start with 12 calories and adjust up if necessary} \qquad \qquad \qquad \text{(Total \# of Calories / day)}}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .35 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Protein / day)}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .50 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Carbohydrate / day)}$$

$$\frac{\underline{\hspace{2cm}}}{\text{(Total cal / day)}} \text{ X } .15 = \underline{\hspace{2cm}} \text{ (Total \# of calories of Fat / day)}$$

100%

$$\text{Total \# of calories of } \underline{\text{Protein}} \text{ per day } \underline{\hspace{2cm}} / 4 \text{ (1g of Protein = 4 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Protein}} \text{ per day } \underline{\hspace{2cm}}$$

$$\text{Total \# of calories of } \underline{\text{Carbohydrate}} \text{ per day } \underline{\hspace{2cm}} / 4 \text{ (1g of Carb = 4 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Carbohydrate}} \text{ per day } \underline{\hspace{2cm}}$$

$$\text{Total \# of calories of } \underline{\text{Fat}} \text{ per day } \underline{\hspace{2cm}} / 9 \text{ (1g of Fat = 9 calories) =}$$

$$\text{Total \# of Grams of } \underline{\text{Fat}} \text{ per day } \underline{\hspace{2cm}}$$

MEAL PLANNING

* Divide the total # of grams of “**Protein, Carb and Fat**”
evenly into 5 meals throughout the day

** Per Meal Nutrient Breakdown

_____ grams of **Protein** per meal
_____ grams of **Carbohydrate** per meal
_____ grams of **Fat** per meal

STRENGTH PROGRAM

INTRODUCTION

The off-season is broken down into four parts:

1. *Immediate post-season.* Rest, rehabilitation and reconditioning are important for wellness and the eradication of any season-nagging injuries.
2. *Endurance - conditioning phase.* The implementation of high reps and light weights along with cardiovascular training is the basis to create a solid foundation.
3. *Strength phase.* Lower reps and heavier weights are used to create strength and lean muscle gains. A very aggressive effort to vastly improve weight increment levels during these workouts is prime importance during the strength phase. Cardiovascular training slowly shifts towards more sprint and baseball specific conditioning.
4. *Power phase.* Reduction of the number of reps and sets and more emphasis on power and explosion is the basis of the final off-season phase.

OFF-SEASON PROTOCOL

1. All players must follow a position-specific, baseball-conditioning program as defined and illustrated in this manual.
2. Baseball conditioning workouts will begin October 1, 2005.
3. Baseball conditioning workouts are required 5-6 times weekly (Monday – Saturday).
4. Baseball conditioning workouts will be conducted at player chosen fitness centers near off-season residences.
5. Players should seek the advice and guidance of selected strength and conditioning coaches in order to perform the 2005-2006 Atlanta Braves Minor League Off-Season Strength & Conditioning Program.
6. Written documentation of the exercise workout models is required.
7. Individual exercise workout cards will be forwarded monthly for evaluation.
8. Failure to return monthly exercise workout cards will result in immediate notification of the Atlanta Braves front office.

AVOIDING INJURIES WHILE PERFORMING THE STRENGTH & CONDITIONING PROGRAM

When participating in a strength program it is important to follow these guidelines:

1. Proper warm-up and stretched should be performed before lifting a weight.
2. One or more warm-up sets should be performed with relatively lightweight, particularly for exercises that heavily involve the shoulders, hips or knees. This stimulates blood flow to the muscles that create the movement, increasing the temperature and pliability of ligaments, tendons, and other structures throughout these joints.
3. Basic exercise should be performed through a full range of motion. Only specialized supplementary exercises should be performed through limited ranges of motions.
4. When a new exercise is introduced to a program or when an athlete resumes lifting after a layoff of 2 or more weeks, relatively light weights should be used.
5. Pain in or around the joints should not be ignored. "Working through" pain can lead to chronic injury. If pain is severe and persistent, it may be necessary to temporarily suspend all lifting that affects the joint or muscle area, modify the workout and to have the injury medically examined and treated.
6. Always start with large muscle group exercises progressing to smaller muscle group exercises.
7. Attentiveness must be encouraged among lifters as a means of avoiding injury.
8. Always use proper technique.
9. Eliminate fast and jerky movements.
10. Breathe. Inhale through eccentric movements. Exhale through "sticking point."
11. Baseball skills. Remember you are a baseball player first, not a weightlifter. It is important that while strength training one should throw, hit, and run.
12. Athletes whose readiness for a workout is impaired by illness, fatigue, drug/alcohol abuse, or emotional status should be discouraged or even prohibited from using exercise equipment.
13. After workouts, a 10-12 min. stretch should be performed to reduce soreness, tightness and to maintain range full range of motion.