WAUWATOSA EAST
RED RAIDERS

WAUWATOSA EAST
GIRLS
BASKETBALL

WEIGHT TRAINING

PERFORMANCE NUTRITION

&

HEALTH

RESTORATION + RECOVERY = REGENERATION

"FULL-TIME RESULTS CANNOT BE EXPECTED FROM PART-TIME ATHLETES!"

SOURCE OF INFORMATION: Marquette University Athletics.

RESTORATION + RECOVERY = REGENERATION

DEFINITONS.

RESTORATION: Bringing an element of the athlete's body back to its original condition.

RECOVERY: Methods of assisting repair and restoration designed to help the athlete rest and recover so they cantrain and play harder and longer.

REGENERATION: Sound training in conjunction with various methods (rest, nutrition, ice, heat) that aid in repair and result in better functioning of the athlete.

PERFORMANCE NUTRITION

COMPETITION NUTRITION.

1. PRE-EVENT (game, practice, lifting)

- **Pre-event snack/meal should be mostly carbohydrates with small amounts of protein and fat.**
- **Pre-event meal should be consumed 1 to 2 hours prior to competition.**
- **16 oz. of water should be consumed one hour prior to completion.**
  Examples:
  1. **Low-fat cottage cheese w/fruit**
  2. **Turkey sandwich on whole wheat, banana**
  3. **1 cup pasta w/sauce**
  4. **Peanut butter and jelly sandwich on whole wheat, banana**

2. DURING EVENT

- **6 oz of Gatorade or Powerade should be consumed every 15-30 minutes (diluting with water OK)**

3. POST-EVENT RECOVERY NUTRITION

Following intense workouts (games, practices, lifting, etc.) it is *extremely* important to consume a recovery meal of both carbohydrates and protein *within 30 minutes*.

Best Choices:

1. **12-16 oz fat-free chocolate milk**
2. **16 oz Gatorade or Powerade and small turkey sandwich**
3. **Pasta and lean meat (chicken, turkey, lean beef)**
4. **Eggs with toast and fat-free milk**

Water. Consume lots of water following practice. The body willnot function properly when dehydrated. If you are thirsty it is too late.

Protein examples for post-workout: chicken, beef, pork lean cold cuts, fat-free milk, eggs, tuna

Carbohydrate examples for post-workout: Gatorade, Powerade, bread, potatoes, rice, pasta

NO FATS! Consumption of fats during post-recovery "window" of time will slow absorption of all other nutrients, thus decreasing recovery.

SMART DAILY NUTRITION

The foods you choose to eat will greatly affect how well you recover and perform the next day.

PROTEIN EXAMPLES: tuna, fish, turkey, pork, lean red meat, chicken, cottage cheese, low-fat cheese, low fat or fat-free milk, beans, yogurt, eggs, deli meat (ham & turkey), tofu.

CARBOHYDRATE EXAMPLES: multi-grain bread, whole wheat bread, whole wheat bagel, rye bread, pita bread, bran cereal, Special K cereal, Frosted Mini-Wheats, oatmeal, brown rice, apples, cherries, pineapple, grapes, oranges, bananas, potatoes, vegetables

FAT EXAMPLES: nuts, seeds, peanut butter (best is all-natural), olive oil, canola oil, flaxseed oil, small amounts of butter, NO MARGARINE

BREAKFEST – DO NOT SKIP BREAKFEST!! Skipping breakfast causes your body to go into 'shock' or starvation mode. This will cause your body to break down muscle tissue for energy. Continuously skipping breakfast will not allow the body to properly replenish energy stores. Low energy stores = poor performance.

Breakfest should include carbohydrates, protein and fat.

PERFORMANCE RECOVERY

REST – Adequate sleep is absolutely essential for growth and recovery. During REM sleep the body releases growth hormone which is essential for recovery. Inadequate sleep will lead to overtraining and sub-maximal performance very QUICKLY!

- **Sleep - 8 to 9 hours of sleep per night is absolute minimum.**
- **GO TO SLEEP BEFORE 12!**
- **When possible wake up at least one hour prior to activity.**

HYDROTHERAPY – Everyone will get bumps and bruises. The use of hot and cold applications can improve recovery from both injuries and fatigue.

Ice – Direct application following activity or trauma can reduce swelling and help the athlete recover quicker.

Ice Bath – Water temperature between 50 – 62 degrees F.

Contrast Shower – This can aid in the recovery of the central nervous system.

Use water as hot as you can stand it and as cold as you cans tand it.

PROCEDURE:

1. **Start with warm water for 30 sec.**
2. **Go to cold immediately after the warm for 1 minute**
3. **Then go hot for 3 minutes**
4. **Repeat steps 1 – 3 two more times. Always finish with COLD.**

STRETCHING – CRTICAL FOR ALL ATHLETIC ACTIVITIES.

Be sure to follow similar stretching procedures as team does during the season for pre-event warm up. Dynamic stretching is preferred over static stretching in most cases. You need to warm up the central nervous system as well as your muscles!

Post Activity Stretching. Ideally stretching following athletic activity should resemble the pre-event stretching routine but at lower intensity. This allows the body to better cool down and remove lactic acid and other waste byproducts. It is recommended that static stretching not follow intense activity.

Evening Stretching. The serious athlete regularly does things to benefit themselves and the team outside of practice. In many ways that is what this whole document is about! It is a good idea to do some static stretching between dinner and bed time to help the body enter a relaxed state to prepare for rest.

KEYS TO GETTING A GOOD NIGHT'S REST

Before bed time:

1. **Listen to relaxing music**
2. **Avoid sugars (candy, sweet foods, soda)**
3. **Avoid caffeine (soda, chocolate, coffee)**
4. **Read a book – without the TV or music on!**
5. **Avoid drinking lots of fluids**
6. **Eat a high protein snack a few hours before bedtime**

Also:

1. **Sleep in complete darkness**
2. **Go to bed early (for sure before midnight!)**
3. **Keep the room temperature below 70 degrees F**

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STRENGTH AND CONDITIONING

Nutritional Priorities

1. *Hydration*: You must drink at least a gallon of fluid a day, preferably water. If you wait until you're thirsty to drink, it's too late. Driving your body without water is like driving your car without oil. If you wait too long to fill up your oil, your engine will seize.

Fluids to avoid that actually cause dehydration:
Coffee
Soda with Caffeine

2. Post Workout Nutrition: This is by the far the most important nutritional feeding of the day. It is important that you have a very high carbohydrate, moderate protein meal. A liquid meal would be ideal. Whether it be a fruit smoothie, a commercial carbohydrate powder, or even a sports drink like Gatorade, it is vital that this nutrition be added to your daily plan.

3. Meal Frequency: You must eat at least 3 meals a day. 6 meals a day are optimal. Try to avoid going more than 3 or 4 hours without eating. Make sure you drink plenty of fluids with each meal. This should keep you from eating massive amounts of food at one sitting and keep your metabolism running smoothly.

Example:
7:00AM Breakfast 1-Pint Fluid
10:00AM Snack 1-Pint Fluid
1:00PM Lunch 1-Pint Fluid
4:00PM Snack 1-Pint Fluid
5:00PM Workout 3 Pints Fluid
6:30PM POST WORKOUT NUTRITION!
7:00PM Dinner 1.5 Pints Fluid
10:00PM Snack 1-Pint Fluid

4. Macronutrient Balance: You must make sure each meal and snack contains a balance of carbohydrates, protein and fat. Athletes in general eat more than enough carbohydrates, but are extremely protein deficient. Make sure each and every meal contains a good source of protein! The second misconception most athletes have is that fat is bad. Fat is essential for athletes to maintain peak health. Try to limit saturated fats (fats from animals) and increase fats from plant sources.

Nutrition Summary
1. Drink plenty of fluid.
2. Eat smaller meals more frequently.
3. Consume a post workout, high carbohydrate shake.
4. Balance each meal. The eyeball method of determining balance is generally pretty effective. If you have a fist sized portion of protein, eat two fists of good carbohydrates. If you must eat poor carbohydrates simply eat one fist size portion.
5. Eat plenty of lean meat, low-fat dairy, fruits, and vegetables.
6. Avoid if possible breads (except pumpernickel and whole rye), white rice, white pasta, and sugary cereal.
7. Avoid junk food at all costs.

Meal Plans

Below are some options for meals throughout the day.

*Protein is the foundation upon which the rest of the meal should be built.

Breakfast	Lunch	Dinner	Snack
• Egg Beater Omelet (w/ ham, Canadian bacon, peppers, onions) • Bowl of Oatmeal • 16 oz. Skim Milk • Apple/Orange	• Chicken Breast Sandwich on Rye or Pumpernickel w/ lettuce, tomato, onion • Kraft nonfat Mayo or mustard • Apple/Orange/Pear • 16 oz. Skim Milk	• 2 Chicken Breasts or Broiled Fish • Chef Salad • 2 Pints Skim Milk • Fruit Salad	• Balance Bar • PR Bar • Any Meal Replacement shake + fruit • Cottage Cheese + fruit • Peanut Butter + Fruit + Skim Milk • Low Fat Yogurt • Mix of nuts/dried fruit + Low Fat Milk

Carbohydrates

Good Choices	Fair Choices	Poor Choices
• Apples, Applesauce • Cherries, peaches, plums • Pears, blueberries, peaches • Chick-peas, beans, lentils • Barley • Eggplant, mushrooms • Onions, tomatoes, lettuce • Broccoli, brussel, sprouts	• Whole grain breads/rolls • High fiber cereals • Brown or wild rice • Oatmeal • Squash, peas, sweet potatoes • Corn, baked beans • Unsweetened fruit juices • Bananas, grapes, raisins	• Pancakes, waffles, white rice • White potatoes, white bread • Pasta, bagels, sweetened cereals • Fruit drinks, soda, candy • Maple syrup, corn syrup, dates, figs • Corn chips, crackers, pretzels • Honey, molasses, ketchup

Protein

Good Choices	Fair Choices	Poor Choices
• Skim Milk, Fat Free yogurt • Cottage Cheese, Egg Whites • White Tuna packed in water • White meat skinless poultry • 95% lean ground beef/turkey • Non-fried fish/seafood • Trimmed beef/pork tenderloin • Beans, peas, lentils	• 2% Milk, low-fat cheese • Yogurt • Whole eggs, dark meat tuna in water • Dark meat skinless poultry • 85% lean ground beef/turkey, turkey bacon or sausage • Trimmed pork chops or lamb • Trimmed choice steaks • Nuts, seeds, natural peanut butter	• Whole milk, regular cheese • Ice cream, frozen custard • 75% lean ground beef, fried chicken, fish, seafood • Bacon, sausage, bologna • Hotdogs, pepperoni, salami, beef or pork ribs • Untrimmed steak • Cheese burgers

Fat

Good Choices	Fair Choices	Poor Choices
• Seeds, pumpkin seeds • Flaxseeds or oil • Primrose oil, olives • Extra Virgin Olive oil • Avocados or guacamole • Fish, clams, oysters, • Scallops • nuts	• Tropical oils (coconut, palm) • Vegetable oil • Peanut oil • Safflower oil • Light Mayo • Sesame Oil, Soybean Oil	• Hydrogenated oils • Partially hydrogenated oils • Bacon, butter • Cream, cream cheese • Sour cream, ice cream • High fat dairy products • Lard • Veal • Lamb

Fast Food Options

If you must eat fast food the following brief list is relatively O.K. but you should certainly avoid it if at all possible.

Burger King
BK Broiler Chicken Sandwiches
Plain Hamburgers

Jack in the Box
Chicken Fajita Pita

Hardee's
Grilled Chicken Sandwich

McDonalds
McGrilled Chicken Sandwich
McLean Deluxe without the cheese
Egg McMuffin
Small regular burgers. Combine the patties to make two double burgers.

Taco Bell
Soft chicken taco

Wendy's
2 Chili
2 Plain Hamburger
Wendy's Grilled Chicken Sandwich

Supplementation

- If you are already consuming a well-balanced diet, there is no need for any further supplementation
- But, if you feel that you are not getting a sufficient amount of fruits and vegetables in your diet a vitamin/mineral supplement would be a good start.
- If you feel that you are not getting enough good fats in your diet, a good essential fatty acid mix, fish oil, or flaxseed oil would be the best options to cover this part of the diet.
- Protein powders are another way to supplement your diet if you are not getting enough protein in your diet. Whey and casein sources should be prioritized over soy.
- Vitamins C and E are two important anti-oxidants that may help with recovery and reduce the amount of free radical damaged caused by exercise. They should be taken post-exercise along with a post-workout shake.
- Keep in mind that there are hundreds of other supplements on the market. Some of them are legitimate while others may provide fraudulent claims. All supplements are not regulated by the FDA (Federal Drug & Administration), and therefore may or may not work. If you have questions about particular supplements, feel free to contact us.

Post Workout

Rationale

- There is a wealth of research that states that post-workout nutrition plays a key role in recovery and overall performance.
- After a workout the body acts similar to a dry sponge. The body will store the nutrients consumed the way a dry sponge soaks up water.
- The primary fuel used during exercise is carbohydrate and the body needs to restore the carbohydrates used during exercise. The rate of carbohydrate storage is 300% higher immediately after exercise.
- Liquid nutrition is the form of choice post-workout, because it passes through the gut faster and can therefore be used faster by your body.
- The ideal post-workout shake should consist of .3 grams of protein per lb. of lean body mass and 1 gram of carbohydrate per lb. of lean body mass
- Example: 150 lb. Athlete with 15% body fat would need 37 grams of protein and 125 grams of carbohydrates.

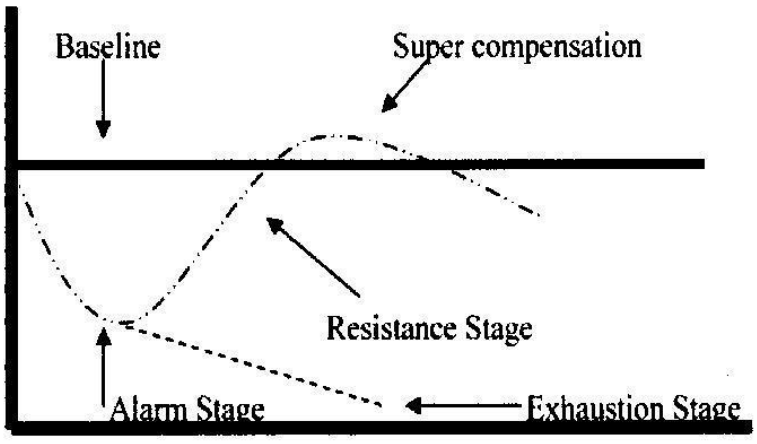
Tips:

- Bring your shake to the gym with you, so you can consume it immediately
- If using a meal replacement shake make sure it is pre-mixed or you have a shaker bottle.
- A simple method for post-workout shakes is to use a meal replacement shake (MetRx, Myoplex) and mix it with Gatorade or Powerade.

STRENGTH AND CONDITIONING

Recovery

- It is an important concept to realize that we do not actually improve our strength & fitness levels during a workout. Our fitness levels improve after the completion of your workout. The workout simply provides a stimulus to improve.
- The amount of volume and the type of work performed during the training session will dictate how long it will take for strength & fitness levels to improve.
- Your initial fitness levels will also dictate how long it will take for your fitness levels to improve (i.e. the higher your work capacity, the quicker you will recover from workouts).
- The graph below shows Hans Selye's GAS (General Adaptation Syndrome) principle. The Alarm Stage occurs after a training session. During the resistance stage the body is recovering, and if the body can not recover back to baseline levels, the exhaustion stage occurs. The exhaustion stage indicates that overtraining has occurred.
- The goal of training is to time training sessions accurately so that the next training session coincides with the Supercompensation stage. This term means that our strength & fitness levels have increased above our initial levels.
- If insufficient recovery time is not given between training sessions, the athlete's strength & fitness levels will drop further below baseline and more time will then be needed for the athlete to supercompensate.
- If too much recovery time is given between training sessions, the athlete may have already passed the supercompensation phase and the original training session would have been pointless.
- Other factors that impact recovery are:
    - Stress (school, boy/girl friend)
    - Nutrition (skipping meals, fast food fixes)
    - Lifestyle



WEIGHT TRAINING – OFF SEASON

"THERE COMES A TIME IN WINTER WHEN IT SHOWS WHAT YOU DID IN SUMMER."

OVERVIEW: More and more it is clear that to compete in our conference at a high level work must be done not only on individual basketball skill development, but also physical strengthening. Following this program and taking care of your body as described on the preceding pages will result in a stronger athlete more prepared for the rigors of the basketball season.

ROUTINE: Do each of the prescribed strengthening exercises 3 times a week with one day of rest in between each day of lifting.

SPEED OF LIFTS: To build strength our philosophy is to do the repetitions SLOWLY.

AMOUNT OF WEIGHT: If you can do 8 you don't have enough weight. Our philosophy to build strength is low repetitions with high weights.

ALTERNATE UPPER BODY AND LOWER BODY EXCERCISES. When an exercise primarily focuses on one area of the body the next set of exercises should be focused on another area. *You do NOT need to follow these exercises in numeric order.*

THE EXERCISE ROUTINE

WARM UP	**DYNAMIC WARM UP – YOU MUST WARM UP**	
EXERCISES	**1. Dumbbell Matrix – 'X' 'Y' & 'I'**	**3 sets**
	2. Balance Bend Over	**3 sets - 9 per leg**
	3. Squat Flies	**3 sets**
	4. Lunges (arms up or down or twists)	**3 sets – 10 one way, 10 back is ONE SET**
	5. Russian Twists -Dumbbell or Med ball V-Sit bounce	**3 sets – 20 total alternating Bounces is ONE SET**
	6. Slides – banded if available.	**3 sets – 10 one way, 10 back is ONE SET**
	7. Bench Press	**3 sets**
	8. Upright Rows	**3 sets**
	9. Dumbell Layout	**3 sets**
	10. Partner Medicine Ball Handoff	**20 BOTH ways**
	11. Box Jumps	**3 sets - 10 jumps**
	12. Bent Leg Crunches	**3 sets – 10 to 20 crunches**
	Vertimax	**10 warm up jumps no bands 5 sets of 6 jumps 45` banded 5 sets of 6 jumps 90 ` banded 10 90` jumps no bands**
CORE	**Regular Plank Left Side Plank Right Side Plank**	**1 minute each – last 10 seconds one leg up**
	Supermans	**10 each hand-leg combo**
COOL DOWN	**Repeat the warm up exercises from earlier, but with less intensity or pace. YOU MUST DO THIS!**	**5 minutes**