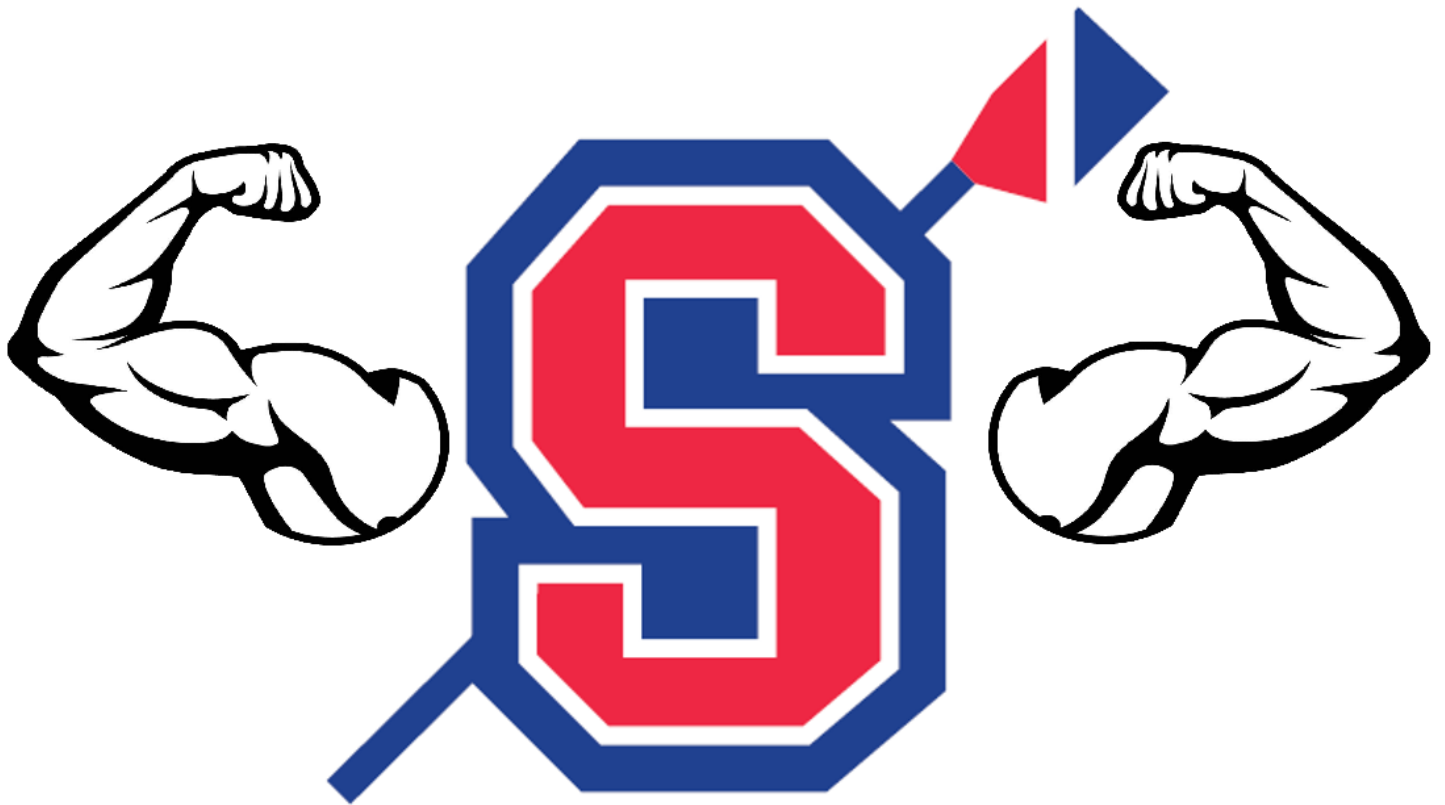


SAMMAMISH ROWING ASSOCIATION

Strength, Conditioning, & Flexibility Handbook



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Throughout your career as a competitive athlete, there will be many times when you do not have a Coach with you to tell you exactly how to warmup, train, cooldown, stretch, manage your nutrition and sleep, and prevent and manage injuries. For this reason, it is important to learn how to plan and execute safe and effective workouts on your own, as well as manage all the other factors that come with being an athlete. This guide is intended to help you take ownership of your training and self-care throughout Captain's Boats and Winter Break this year, as well as teach you valuable skills that you can keep for the rest of your life.

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1. STRUCTURING WORKOUTS

There are many moving parts to a safe and effective workout. Before planning your workout, ask yourself this:

“What are my goals are for this workout?”

Are you seeking to get **stronger** (increasing your raw power output), **more conditioned** (increasing the endurance of your muscles and your cardiovascular system), **more flexible** (able to move further through healthy range of motion), or **some combination of those three**?

Do you have a **specific performance goal** in mind, like lifting a certain amount of weight for a certain amount of reps, or erging/running for a specific distance/time?

Beware of “Workout Perfectionism”

Remember, not every workout has to be the most perfect, fancy, well-designed, 3-hour-long marathon of a workout. Many athletes struggle with **“workout perfectionism”**, which is a pattern of thinking that goes something like “If this workout isn’t the longest, hardest, best work out of my life, than it’s worth nothing. Therefore, **if I’m not feeling 100% perfect and the stars don’t align, I might as well skip my workout all together.**” This couldn’t be further from the truth. Every moment you spend being active (walking, stretching, cardio, strength training, etc) is helping you become faster, stronger, and healthier (assuming you are getting enough rest and are not injured). You can still get a great workout even if all you have is 20 minutes and no equipment. It all adds up, it all counts. Successful athletes embrace this process as a lifestyle. Champions don’t wait for the perfect circumstances, they create winning circumstances through planning and execution.

STRUCTURING WORKOUTS

The basic structure of an effective workout looks something like this:

- 1. Dynamic Warmup**
- 2. Strength Training***
- 3. Conditioning***
- 4. Flexibility/Cooldown**

Parts 1 and 4 (Dynamic Warmup and Flexibility/Cooldown) should be done for **every single workout**. For Parts 2 and 3, you can decide based on your goals for that day and your overall training plan if this is particular workout is going to be a Strength Workout, a Conditioning Workout, or both.

If both, always do Strength before Conditioning. This is a safer way to train because Strength Training requires you to be at relatively full energy in order to safely handle the weights. This is also the more effective way to train due to the way our metabolism stores and uses energy via glycogen and fat (see Nutrition section for more details).

2. DYNAMIC WARMUP

A Dynamic Warmup involves warming up your muscles, joints, tendons, ligaments, and cardiovascular system by jogging in a circle/oval and running through a series of drills and dynamic stretches. (It is important to note that Dynamic Stretches are different from static-hold style stretches, which are better at the end of your workout in the cooldown phase.)

JOGGING DRILLS:

- 1. Jogging** (Jog in a circle).
- 2. High Knees** (Jog while driving each knee up to waist height).
- 3. Butt-Kickers** (Jog while sending each heel back to meet your glute).
- 4. Skipping** (Skip, launch high off 1 foot, drive opposite knee, land on 1st foot again).
- 5. Side Shuffle** (Half Squat while shuffling in a circle. Always face same way).
- 6. Grapevine** (While Shuffling, weave back foot behind and in front of lead foot).

WALKING DRILLS:

- 1. Cockey Walk** (Walk while rising up onto the ball of each foot. Calf warmup).
- 2. High Kicks** (Raise 1 hand in the air, try to kick your hand with opposite foot).
- 3. Hip Flexor Lunge** (Walking lunges, hold at bottom and lean torso back).
- 4. Quad Stretch** (Hold one foot and bring it back towards your glute).
- 5. Arm Circles** (Walk while gently moving arms in forward&backward circles).
- 6. Arm Hug** (Open arms wide, then bring one arm across chest and hug it in).

If you're unsure how to do any of these warmup exercises, ask one of your teammates or coaches.

3. STRENGTH TRAINING

Strength Training is moving the body through range of motion with resistance on the muscles in order to stimulate the muscles to grow bigger and stronger. It is during your **rest and recovery time** that your body delivers proteins to the muscles to repair the micro-tears caused by exercise, thus creating a denser, stronger muscle. For this reason, good sleep and quality nutrition are key to get the best results from your hard work in your Strength Training.

Designing a Strength Training workout involves:

1. Selecting **Exercises**
2. Selecting **Rep Ranges** for each exercise
3. Selecting **Weights** for each exercise
4. Selecting **Number of Sets** for each exercise

For High School Rowing Athletes, I recommend **FULL BODY** strength training (rather than only training 1 or 2 muscles per workout). Optimally, you should be strength training **2 – 4 times per week** to keep your body constantly growing stronger. I recommend spreading your Strength Training sessions out evenly throughout the week.

I recommend **8 SETS PER MUSCLE GROUP, PER WORKOUT**, at a rep range of **6 – 15 REPS**. You should select a weight that is challenging enough that you can only lift it 6 – 15 times. If you cannot complete 6 reps, you should choose a lighter weight. If you can complete more than 15 reps, you should choose a heavier weight. (Think of this as a guideline, not a rule, because there are many exceptions. For example, body-weight pullups are a very challenging exercise, and worth doing even if your sets are less than 6 reps. On the flip side, exercises like crunches and jumpies are still very effective, even though you can likely do much higher rep ranges. Remember, don't get so caught up in the particulars that you fall into the trap of "workout perfectionism". As long as it's done safely, any set is better than no set at all).

MUSCLE GROUPS:

1. **Legs:** Quads, Glutes, Hamstrings, Calves
2. **Core:** Abdominals, Lower Back
3. **Upper Body Pulling Muscles:** Upper Back (Lats, Rhomboids), Biceps
4. **Upper Body Pushing Exercises:** Pecs, Shoulders, Triceps

**4 MUSCLE GROUPS x 8 SETS EACH =
32 TOTAL SETS PER WORKOUT**

Aim for about 6 – 15 CHALLENGING REPS per set!

SELECTING EXERCISES

We need to do 8 sets per muscle group in our strength training workout. That means we could do **8 sets of the same exercises**, or **do 4 sets of 2 different exercises** for each muscle group. Either style should be equally effective, and it can be good to alternate between the two styles.

The next page will be a big list of exercises for each muscle group, listed in priority of how helpful they are to the sport of rowing. I will not be going into detail about how to properly perform each exercise in this guide, since we have been working on them together all season. If you are unsure, ask a teammate, a coach, or google!

STRENGTH EXERCISES

<p>LEGS:</p> <ul style="list-style-type: none">• Squats• Deadlifts• Lunges• Step Ups• Glute Bridge• Straight Leg Deadlift	<p>CORE:</p> <ul style="list-style-type: none">• Plank• Leg Lifts• Crunches• Side Plank• Side Crunches• Cobra/Superman
<p>PULL:</p> <ul style="list-style-type: none">• Bent Over Row• Pullups• Bent Over Flies• Bicep Curls	<p>PUSH:</p> <ul style="list-style-type: none">• Pushups• Shoulder Press• Bench Dips

There are many more exercises out there, but these are the tried-and-true basics. There are also many variations to each of these exercises.

<p>EXAMPLE STRENGTH CIRCUIT #1:</p> <ol style="list-style-type: none">1. Squats2. Plank3. Bent Over Row4. Pushups <p>x8 ROUNDS</p>	<p>EXAMPLE STRENGTH CIRCUIT #2:</p> <ol style="list-style-type: none">1. Deadlifts2. Plank3. Pullups4. Pushups5. Lunges6. Leg Lifts7. Bent Over Rows8. Shoulder Press <p>X4 ROUNDS</p>
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4. CONDITIONING

Conditioning is another word for **cardio** or **endurance training**. This type of training is absolutely key to your success in the sport of rowing.

Conditioning workouts consist of any of the following types of exercise:

- **High Rep Muscular Endurance Exercises** (example: Jumpies)
- **Sprint Cardio** (example: Sprinting on the path)
- **Steady State Cardio** (example: 30+ minute long erg/run/bike)

Unlike Strength Training, Conditioning Training can be done every day (assuming you are getting proper rest and recovery). Conditioning workouts will have much more variety than Strength Workouts, and are less strict in structure. As long as you warmup and cooldown, you can do any of the styles listed above, in any order. Try to structure your workout in a way that will make it the most safe and effective.

Muscular Endurance	Sprinting	Steady State
<ul style="list-style-type: none">• Jumpies• Burpies• Mt. Climbers• Med. Ball Slams• Punches• Jumping Jakes• <i>Any exercise that you can do for 25+ reps</i>	<ul style="list-style-type: none">• Sprint Run• Sprint Erg• Sprint Bike• Sprint Swim	<ul style="list-style-type: none">• Steady Run• Steady Erg• Steady Bike• Steady Swim

You don't need to do each style in every single conditioning workout, but try to include each type throughout your week.

Record your results (erg splits, run times, etc) to track your progress and push yourself to new levels of fitness.

5. FLEXIBILITY

Flexibility, sometimes called **mobility**, is so important to your performance, health, longevity, and quality of life as an athlete and simply as a person! When humans are born, we are naturally very flexible and have mobility. Over time, we lose that flexibility if we live a sedentary lifestyle and don't move our bodies through their full range of motion. By setting aside just 10 or 20 minutes per day to stretch (or more if you want), you can ensure that your body is remaining flexible and able to take a long, powerful, effective stroke.

We do our **Dynamic Warmup** at the beginning of our workouts, and our **Static Stretches** (stretches that you hold for 30+ seconds) at the end of our workouts.

That being said, it is totally fine to do a Static Stretching routine *by itself* (for example, as part of your morning and/or evening routine). It is just not a good idea to get a deep stretch in your muscles right before lifting a heavy weight, for example.

As you learn more and more about yoga and stretching, you can create your own routines based on your individual needs and goals. In the meantime, I've created a great 10 Minute Full Body Stretching Routine for you that can be done once or twice a day, and it even has a YouTube Video Guide to go along with it!

STRETCHING ROUTINE →

10 Minute Full-Body Stretching Routine

(30 Seconds+ each)

- **Child's Pose**
- **Thread The Needle (in Child's Pose)**
- **Side to Side Spine Warmup (in Table Top Pose)**
- **Cats and Cows**
- **Downward Facing Dog**
- **Half Scorpion (R)**
- **Low Lunge Hip Flexor Stretch (R)**
- **Low Lunge Quad Stretch (R)**
- **Half Splits (R)**
- **Half Pidgeon (R) *(forgot this one in the video)***
- **Downward Facing Dog**
- **Half Scorpion (L)**
- **Low Lunge Hip Flexor Stretch (L)**
- **Low Lunge Quad Stretch (L)**
- **Half Splits (L)**
- **Half Pidgeon (L) *(forgot this one in the video)***
- **Forehead to Knee (R) *(forgot this one in the video)***
- **Forehead to Knee (L) *(forgot this one in the video)***
- **Forward Fold Hamstring/Back Stretch**

For Video Guide, YouTube Search: "Jake Grossman Stretching Routine"

6. INJURY PREVENTION/MANAGEMENT

As an athlete, you push your body to its limits. In doing so, you become fitter and stronger, and your limits become higher. This is the joy of sport.

However, if you suddenly push your body too far beyond its current limits, or if you use improper technique, you could end up getting an injury. Your health and safety are our primary concern on this team, and injuries can hold you back from achieving your best results on the race course and in life. Because of this, it is important to work out **SMARTER, not just HARDER**.

There are 2 main types of injuries: **ACUTE** and **CHRONIC**.

Acute Injuries happen suddenly, usually due to improper technique (pulling your back when deadlifting improperly) or trauma to the body (ex: falling down, dropping a weight on your foot). Chronic factors can also lead to these acute injuries by developing muscle imbalances or tightness.

Chronic Injuries happen gradually over time. They can be the result of a previous acute injury, but more often are what we call an **overuse injury**, where improper technique gradually starts to wear on the body over a long period of time.

INJURY PREVENTION:

- Always warm up
- Be smart about selecting your exercises and weights
- Use proper technique
- Always cool down
- Stretch regularly throughout the week
- Sleep at least 6 – 9 hours per night
- Stay hydrated (shoot for 2+ Liters of water per day)
- Eat a well-rounded, healthy diet
- Be mindful of injuries that may be developing

INJURY MANAGMENT:

If you sustain an injury, you may need to see a doctor (depending on the severity of the injury). Always communicate with your parents and your coaches about injuries, even subtle chronic aches that may be starting to appear. Doctors are the experts in this matter, but there are several general things you can do to manage your injuries:

- **ICE** (20+ minutes, twice a day on the injured area)
- **EPSOM SALT BATHS** (available at Drug Stores, use up to 3lbs of it)
- **FOAM ROLLING/MYOFASCIAL RELEASE** (available for use at SRA, or you can buy your own online)
- **MASSAGE** (talk to your parents about possibly scheduling)
- **CHIROPRACTOR** (talk to your parents about possibly scheduling)
- **STRETCHING**
- **REST**
- **MEDICATION** (over the counter medication like Ibuprofen can be given by parents, and prescription medications can be given by doctors)

Think of the first 3 (**ice, Epsom salt baths, and foam rolling**) as things you can do for yourself to prevent and/or manage less serious injuries, and the other items as things that other people are helping you with for more serious injuries.

7. NUTRITION

A person's diet/nutrition is a very personal matter, with many factors at play. If you have any specific inquiries about your nutrition, a licensed Nutritionist or Dietician is the expert you should go to. I am not a licensed Nutritionist or Dietician, but I can give you some generally accepted scientific information and guidelines.

The food you eat is comprised of 2 main things: **MACRONUTRIENTS** and **MICRONUTRIENTS**.

The **3 MACRONUTRIENTS** (sometimes called "macros") are **PROTEIN, CARBOHYDRATES, and FAT**. All food is made up of some combination of these things, and this is where our body gets **calories**.

1g of Protein = 4 calories

1g of Carbs = 4 calories

1g of Fat = 9 calories

These 3 macronutrients nourish our bodies in different ways:

Protein is used for repairing damaged or fatigued muscle. Think of protein as the bricks that build up your muscles.

Carbs are stored in your muscle cells as **glycogen**, which is our fastest energy source because the muscle is using energy that is stored directly within its cells. These glycogen stores deplete and refill on a daily basis, so they don't store energy long-term.

Fat flows through your blood stream, delivering slow-release energy to the muscles that need it. Fat that is not used up can be stored as body fat, where it can be used later for the same purpose.

FOODS OF EACH TYPE

PROTEIN	CARBS	FAT
<ul style="list-style-type: none">• Lentils/Split Peas• Beans/Legumes• Lean Meat• Fish• Eggs• Lean Dairy• Plant-Based Protein Powder• Whey Protein Powder	<ul style="list-style-type: none">• Fruit• Vegetables• Whole Grains• Lentils/Split Peas• Beans/Legumes	<ul style="list-style-type: none">• Nuts/Nut Butter• Seeds (Chia/Flax)• Avocados• Fatty Meats• Fatty Dairy (Whole Milk, Butter, Cheese)

Knowing what we now know about the different macronutrients and how they work, we can be smarter about what foods we eat and when. For example, **carbohydrates and fat should be favored earlier in the day to provide fuel for your body, while protein should be favored later in the day to aid in recovery.** That being said, you don't need to obsess or be too strict with this concept. Balance is key! Also, try to favor **less processed foods** whenever possible (example: sweet potato is healthier than potato chips! Though moderation is key).

MACRONUTRIENTS RATIOS

Just exactly how much of each micronutrient should you be eating? A good general guideline is:

20 – 25% PROTEIN

40 – 60% CARBS

20 – 30% FAT

As far as determining your caloric needs, you can use this Active Metabolic Rate calculator. I recommend eating by feel rather than counting calories, but it can be good to know your body's fuel needs.

<https://www.prokerala.com/health/health-calculators/active-metabolic-rate.php>

MICRONUTRIENTS

Micronutrients are all of the vitamins and minerals in your food.

Micronutrients do not contain calories, but they are vital to the healthy functioning of your body. Eating a diet rich in fruits, vegetables, and whole grains should ensure that you meet all of your micronutrient needs, but if you're ever in doubt, you can always consult your parents/doctor about taking a daily multivitamin.

SUPERFOODS RICH IN MICRONUTRIENTS

- Kale
- Broccoli
- Brussel Sprouts
- Spinach
- Blueberries
- Blackberries
- Raspberries
- Bananas
- Flax Seeds
- Chia Seeds
- Avocados
- Quinoa
- Lentils
- Many, many more!

ORTHOREXIA

Having a working knowledge of nutrition is important for any successful athlete. However, if you find yourself **obsessing over your caloric intake/nutrition to the point that it is feeling detrimental to your mental health and wellbeing**, make sure to talk to a parent, doctor, counselor, coach, or someone you trust.

8.SLEEP

The quantity and quality of your sleep is key to your health as a growing person and an athlete. As student athletes, I know you have a lot on your plate with school, practice, homework and other responsibilities. That being said, I recommend that you sleep **at least 7 hours per night**. Scientific studies have found that the best quality sleep happens between **10pm and 2am**, based off our natural circadian rhythm, so **if possible, be asleep by 10pm**.

Sleep is when your body recovers from your workout. Sleep is when your muscles grow bigger in stronger. If you don't get enough sleep, you are wasting some of the hard work you put into your training, and over a long period of time this could negatively affect your performance and your health.

TIPS FOR FALLING ASLEEP:

- **Fall asleep at the same time every night (use an app to remind you)**
- **No phone/screens 30 minutes+ before bed (the blue light entering your eyes tricks your brain into thinking it is still daytime)**
- **Read in bed**
- **Stretch before bed**
- **Breathing exercises before bed**
- **Meditation before bed**
- **Warm bath/shower before bed**

9. MENTAL HEALTH

Sammamish Rowing Association is proud to have a longstanding tradition of successful competitive athletes. We go for the gold, and are always pushing ourselves to be the best we can be and achieve our goals.

That being said, **nothing is as important to this team as the health and wellbeing of each individual athlete. If you are ever feeling overly stressed, anxious, depressed, hopeless, alone, or feeling like you might harm yourself or others, please talk to someone.** All of the Sammamish coaches and staff are here for you, as well as potentially your parents, friends, doctors, and school counselors.

You are a critical part of this team. You matter. Thank you for being a part of this family, and for giving your effort and your energy. You rock!