Introduction:

Participation in high school sports offers many benefits but athletes must be physically fit in order to compete effectively and minimize the risk of personal injury. Failure to prepare for, or maintain optimal fitness throughout the season may result in an athlete not making the team or being sidelined because of a preventable injury.

What are the key things I should do?

1. Prior to participation in any physical activity it is recommended that you be cleared by a doctor, following a complete physical examination. (Clearance by a health care professional is required before a student may try out for, or participate in a high school sport) If you have sustained an injury it is important to understand what it is you can, and cannot do. You doctor should be able to recommend exercises to help you recover or refer you to an orthopedic surgeon, physical therapist or other specialist.

2. You should identify the sport(s) you are interested in as some sports may require you to train differently in order to be properly prepared. If you recently had a fitness assessment in your PE class, review those results and identify areas in which there is room for improvement.

3. Participation in most sports requires high levels of cardiovascular and muscular strength/endurance, and a wide range of motion (flexibility).

4. Cardiovascular endurance can be improved by regularly* engaging in activities that involve sustained muscle use such as jogging/running, cycling, rollerblading, jumping rope, swimming or playing a sport. During the period of exercise the heart rate is raised to a level that has a training effect on the heart and lungs. The heart strengthens and is more able to cope with the demands placed on it. A strong heart is able to pump a greater volume of blood with each beat than a weaker heart, and thus an individual’s resting heart rate/pulse will be reduced. (*several times a week) The length of time involved in the exercise or the intensity of the exercise should be dictated by your own level of fitness as well as the type of sport you are training for.

5. Improving muscular strength/endurance involves using personal body weight (sit-ups and push-ups) or external weights (dumbbells, fixed weights etc) as a resistance, thus forcing the body to adjust to the demands place on it. When weights are somewhat heavy and repetitions low, strength can be progressively improved over time. When weights are light but repetitions high, endurance (or the ability to repeat
the exercise for an extended period) can be improved. It is always best to work out with a partner and use a spotter whenever external weights are used. Your spotter can help keep your safe and provide motivation as well as feedback on correct form/technique. Exercises like sit-ups and push-ups can be performed almost anywhere and do not require special equipment.

6. Developing and maintaining **flexibility** is often ignored and its importance not fully appreciated until an injury occurs. Improving the range of motion in your various joints will mean your body can respond more easily to the demands placed on it without injury. However, accidents cannot be avoided and even the most conditioned athletes will sustain injuries after they have worked hard to avoid them i.e. a pulled hamstring. Improved flexibility also means an individual may perform at a higher level. i.e. a batter may be able to hit a ball with greater force is he/she can apply force through a greater range of motion. The body should be warmed before stretching and athletes should remember to stretch after exercise as well as before.

7. Prepare yourself for the weather by gradually increasing the length of time exercising outside. Fall and late spring are particularly hot and humid and can result in heat-related illnesses if not prepared for. When equipment is worn, (e.g. helmets) it should be introduced over a gradual period so the body can adjust. If you have not been very physically active over the summer and then go out for football your body is not going to be ready for the demands placed on it. It is important to take frequent breaks in hot weather, get out of the sun when possible and stay hydrated. It is extremely important to drink before, during and after exercising. Dark urine is a sign you are not drinking enough.

8. Besides obtaining recommendations from a medical professional such as an athletic trainer or physical therapist, your coach should be able to provide you with some suggestions or resources. If you coach offers out of season conditioning opportunities you are encouraged to take advantage of these. Coaches provide these out of season opportunities in their own time, so be sure to thank them for doing this.

**Selected Resources:**

Please note that none of these resources are intended as a substitute for proper medical advice:

http://www.exrx.net/Exercise.html (Note: If “body map” is selected it depicts a rendition of the naked human form)