Use of performance-enhancing drugs (PEDs), also known as “doping,” isn’t just a problem among elite athletes like Lance Armstrong. Unfortunately, PED use is widespread in high schools, colleges, and gyms across the United States. Many young people may feel pressured – by their peers or by their own ambitions – to use these drugs to improve their competitive performance, lose weight, or improve their own body image. Doping may raise the risk for a number of serious health-related problems, including increased risk of heart-related death and long-term cardiovascular damage.

Read on to learn more about PEDs and strategies for discouraging doping.

What Are Performance-Enhancing Drugs?
The most commonly used PEDs are anabolic androgenic steroids, which are known for their ability to build and strengthen muscle as well as reduce body fat.

Other common PEDs include:

• **Human growth hormone (HGH).** Athletes and other young adults may use this drug to improve performance and increase muscle.

• **Human chorionic gonadotropin (HCG).** Some men may use this hormone as a PED to increase testosterone if, as a result of anabolic steroid use, their bodies have stopped making high enough concentrations of testosterone naturally.

• **Erythropoietin (EPO).** Endurance athletes may use this as a PED to increase the number of red blood cells in the body, thereby increasing oxygen in the bloodstream.

• **Stimulants.** Amphetamines – including attention deficit-hyperactivity disorder (ADHD) medications – can function as PEDs when they are used to enhance mental performance and physical functioning.

• **Testosterone.** Commonly used in conjunction with other PEDs, testosterone is particularly easy to abuse because it is applied to skin rather than injected.

Who Uses Performance-Enhancing Drugs?
Because of several highly publicized cases of doping among professional athletes, we tend to think of PEDs as a problem unique to professional sports. However, studies and news reports have revealed that athletes at less competitive levels – including high school and college-level sports – may feel pressured to dope to improve their chances of winning at their sport or being recruited.

*Note: The information contained herein does not, and is not intended to, constitute comprehensive professional medical services or treatment of any kind. This information should not be used in place of medical diagnosis or medical advice and must be considered as an educational service only.*
Some teenage girls and young women may use PEDs for weight loss, while teenage boys and young men may use them to build muscle to improve their body image.

Research has found that more than one million Americans now use anabolic steroids, and that 5 percent of boys and 2 percent of girls in high school admit use of PEDs.

What Are the Cardiovascular Risks of Performance-Enhancing Drugs?

Different types of PEDs will carry different risks. More research is needed, but use of anabolic steroids seems to increase the risk of potentially fatal conditions, including heart attack and heart rhythm problems. Various PEDs can also raise blood pressure, and anabolic steroids can raise “bad” cholesterol while lowering “good” cholesterol levels, contributing to long-term heart disease.

Among those at greatest risk are young athletes who have hypertrophic cardiomyopathy – typically an inherited thickening of the heart muscle. Anabolic steroids, which have also been shown to thicken the main pumping chamber of the heart, could worsen hypertrophic cardiomyopathy.

While more research is necessary, it appears that in some cases use of PEDs in people with congenital (present at birth) heart disease can further increase the risk of sudden cardiac death. An important takeaway is that not all young athletes who have a congenital heart defect know that they do. Congenital heart disease can be diagnosed at any point in the life span, including well into adulthood. While sudden cardiac death is extremely rare in young athletes, discouraging use of PEDs may be one way to keep its occurrence as low as possible.

What Can I Do to Discourage Use of Performance-Enhancing Drugs?

If you are active in the lives of teens and young adults, you can help address the problem of doping first by being aware of the problem yourself and communicating about it with other adults. Share with other parents, guardians, teachers, coaches, and so on, that student athletes at all levels may be taking the drugs, and that non-athletes (male and female) may be taking PEDs to try to improve their appearance.

Next, try to talk with the young people in your life about PEDs. Make them aware that use of performance-enhancing drugs may be dangerous to their short- and long-term health.

Signs to Watch For

• **Physical changes.** PEDs may cause changes that are sudden and pronounced. Look for drastic changes in appearance, such as big gains in muscle in boys or breast enlargement; increased acne in boys and girls; and quick weight loss, excess body hair growth, and a deepening voice in girls.

• **Excessive concern about athletic performance.** When taken to extremes, this may be a warning sign. Has the teen or young adult expressed feelings of extreme pressure to win? Has he or she made sudden gains in athletic performance that training alone can’t quite explain?

• **Excessive concern about appearance.** Has the teen or young adult expressed feelings of being too weak or overweight, accompanied by sudden physical changes?

• **Drastic emotional changes.** Anabolic steroids can cause emotional changes, including angry outbursts referred to as “roid rage.” Though more research is necessary, there may also be a link between steroid use and depression and suicide.

• **Unaccounted-for expenditures.** While news reports suggest PEDs can be easy to obtain and relatively cheap, you may still notice that your teen is spending money that isn’t fully accounted for.

• **None of the above.** Teens and young adults who are taking PEDs may not obviously exhibit any of the signs mentioned above, making use of the drugs difficult to identify. When you discuss drug and alcohol use with a teen or young adult, consider also mentioning the risks involved in using PEDs.

What Should I Do If I Have Other Questions?

**Ask them.** Get in touch with your healthcare provider and ask all of your questions. Any time you have health questions, the conversations you have with your doctor are the key to successful results. Ask every question you have.