

## Sickle Cell Trait and the Athlete

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### Statement

The College of American Pathologists (CAP) recommends athletic programs consider confirming sickle cell trait status in all athletes' preparticipation physical examinations. Simple precautions can prevent sickling crises and enable sickle cell trait athletes to thrive in sports and physical activities. If an athlete lacks documentation, the CAP recommends that screening be considered to determine his/her status. The CAP also stresses education to create an environment that encourages trainers and athletes with sickle cell trait to immediately recognize and report any symptoms assumed to be sickling.

### Information Highlights

- Sickle cell trait is an inherited blood disorder, which can cause serious problems during exercise.
- The sickle gene may be present most often in people of African, African-American, Mediterranean, Middle Eastern, Indian, Caribbean, South American, and Central American descent.
- Many people do not know whether or not they carry the sickle cell gene.
- During intense exertion, dehydration, and hypoxemia (decrease in oxygen), the red blood cells change their shape in the bloodstream, can block blood vessels, and can cause problems throughout the body.
- Sickling collapse has been mistaken for cardiac collapse or heat collapse.
- Signs of sickling include fatigue, difficulty breathing, leg or low back pain, and sudden weakness.
- Environmental heat, dehydration, asthma, illness, and altitude predispose an athlete with sickle trait to an onset of crisis in physical exertion.
- No sickle-trait athlete is ever disqualified from participating in sports.
- Education and precautions can prevent sickle crises in athletes with sickle cell trait. These include adjusting exercise for the environmental temperature, emphasizing hydration, controlling asthma, no exercise if a sickle trait athlete is ill, modifying exercise upon exposure to a new altitude.