



## CASE STUDY

**D**errick, a transfer student from California, reported to the athletic training staff for the preparticipation physical as directed by his coach. Derrick had been unable to attend the group physical for the football team due to a family medical crisis. Derrick's newborn son had been born with a heart defect, which required emergency surgery. Derrick had spent every day and night at the hospital for the past 4 days. Unfortunately, the baby did not survive the surgery, and the funeral was on the day the team was scheduled for the PPE. Derrick's flight into Phoenix from San Diego arrived at noon the day after the PPE.

Since the rest of the team had already finished the PPE, Derrick was sent to the health center for his physical. He returned from the appointment with the proper forms signed, ready to start practice. He picked up his football gear from the equipment room and went to the team meeting that afternoon. In the meeting he learned that the team would be doing the physical testing in the morning,

starting with the shuttle run, which he was told he had to finish within 120 s.

Derrick was concerned about the run but thought he could make the time. After finishing the run, Derrick collapsed on the side of the field, exhausted and starting to become nauseated. After immediate attention by the medical staff, Derrick was transported to the hospital for treatment of a sickle cell crisis. Derrick carried the sickle cell trait, but not the disease.

### Think About It

1. What factors contribute to problems when a participant has the sickle cell trait?
2. What was happening in Derrick's life that could have contributed to dehydration? Would the change in climate have any effect?
3. How could the PPE have prevented this episode? Do you think participation in the group PPE would have been better than the individual exam Derrick received at the local health center?

## Learning Aids

### SUMMARY

The PPE is an important step in understanding possible limitations to participation for the fitness-conscious individual. Understanding the physical limitations can help to prevent injury or illness that might result from participation. The PPE should be used as a tool to help the patient prevent problems and not as a tool to restrict participation. If individuals can see the positive benefits of a thorough physical examination, they will be much more receptive to it.

### KEY CONCEPTS AND REVIEW

- ▶ **Discuss the importance of a preparticipation physical examination for sport team members or for someone beginning a fitness program.**

The PPE evaluates the medical status of the individual with reference to the requirements of the sport or activity to be undertaken. The PPE differs from an annual physical exam (wellness exam) in that the evaluation

focuses on potential areas of increased risk of health hazard during vigorous activity rather than the health of the sedentary individual.

- ▶ **Discuss how knowledge of preexisting conditions may help in the medical care of the physically active individual.**

When a preexisting condition is detected before it has caused harm, treatment or adaptations can be instituted to allow safe participation in physical activities. For example, a person who is diagnosed with a small hernia may be cleared to participate in activities but restricted from heavy weight training. Knowledge of the potential for further trouble can help keep the patient and the medical staff alert if symptoms increase.

- ▶ **Present the two main ways to conduct a physical examination for athletic sports teams, and list the advantages and disadvantages of each.**

Individual examinations cost less for the school or team, and the physician may know the patient or her medical history well. On the other hand, the physician may not know the individual, and the quality of the exam will not be uniform across all patients tested. With a group examination, in which all participants are checked by the same physicians, the exam is concluded during one session (therefore it's fast). The problems associated with group exams are typical of managing a large group: the noise level is high; individuals may become distracted and confused; follow-through on suspicious findings is difficult; and there is less privacy and individual counseling.

- ▶ **List the types of examinations to be included in the preparticipation physical examination, and identify the members of the medical team needed to conduct these exams in a group physical.**

Administrative forms and history are handled by a department administrative assistant or other staff members. Local emergency

medical technicians, paramedics, nurses or nursing students, and athletic trainers or trained student athletic trainers usually take an individual's blood pressure and pulse. Nurses or phlebotomists (or both) from a laboratory take samples for the blood test and urinalysis. Athletic trainers or trained students measure height, weight, and body composition. Optometrists or trained ancillary staff perform vision screening. Orthopedic surgeons and athletic trainers do an orthopedic evaluation. A general surgeon or other MD, or a doctor of osteopathy (DO), assesses the abdomen and pelvic areas. An ear, nose, and throat specialist or other MD or DO evaluates the individual's ears, nose, and throat. A cardiologist or other MD or DO performs the evaluation of the heart and lungs. Optional tests include dental check by a dentist and an electrocardiogram by an exercise physiologist or other trained ancillary staff.

- ▶ **Compare and contrast aspects of the group physical and the individualized examination.**

Both methods of PPE evaluate the participant to ascertain that there is no known risk to participation in the desired sport. The group physical uses the same examiner for each participant and thus provides a degree of reliability, whereas a group of individual examinations yields data from a variety of examiners. The individual exam can provide more time for discussion and counseling for the individual participant, while the group exam may become backlogged if one individual needs additional time. The individual examination is as quiet as the examining physician needs it to be, while the group physical can become noisy. The team, at no cost to the individual participant, typically conducts the group physical whereas the individual exam is at the patient's expense.

- ▶ **Identify problematic areas in conducting a group physical and list ways in which those situations may be managed.**

Problematic areas include the following:

- Noise levels may make it difficult to hear: Arrange stations to limit congregation outside critical areas.
- Participants may become confused regarding where to go next: Provide “ushers” to direct traffic flow and assist people in finding the next station.
- Minor findings may become lost in the numbers: Generate a list of any remarks made on the participant’s physical exam form. Assign an ATC for a sport team to ensure proper follow-through and follow-ups.
- Physical arrangement of stations may allow a waiting patient to pressure the examiner: Arrange stations to provide as much privacy as possible, and have a staff member serve as monitor to control situations.
- The large number of patients waiting for evaluation may reduce individual counseling: Have physicians schedule postexam time to speak with patients.



## PRACTICE!

For hands-on practice in this area, go to the web resource and complete the following:

Level 3.4, Module O6: Pre-Participation Medical and Physical Examination

## CRITICAL THINKING QUESTIONS

1. You recently accepted the position of Director of Sports Medicine at a local community college, and your first challenge is to develop the PPE plan for the fall sports of cross country, soccer, volleyball, and swimming. Discuss your proposal. Include the type of exam you will suggest; and from a local directory, identify the individual(s) you would use to conduct the exams.
2. You are assisting with the group PPE for your college, and the medical director comes to you saying that your station is doing fine with the number of helpers you have, so he wants you to go help elsewhere to keep the flow going. What exam area(s) would you feel prepared to help in? What other thoughts would you have about attempting to improve the traffic flow?
3. You have planned for a group physical for several fall sports. Unfortunately, recent changes were made to one of the team’s plans, and the participants will not be reporting to campus until 2 days after the scheduled PPE. The next scheduled group PPE is 2 weeks after the day that team plans to begin practice. Explain what you would do to ensure that all participants in this sport will obtain their physical in time for the scheduled first practice.