Kidney Contusion

**BRIEF DESCRIPTION:** Renal injuries are the most common injuries of the urinary system. Even though the kidneys have protection from lumbar muscles, ribs, vertebral bodies, and viscera, the kidneys have a great mobility — and consequently, damage — to the solid part of the kidney (parenchyma), and vascular injuries can easily occur. These injuries are usually seen in sports such as football, ice hockey, field hockey, lacrosse, and baseball, but have the potential to occur in almost every sport.

**MECHANISM OF INJURY:** In sports, blunt trauma in the region of 12th rib compresses the kidney against the lumbar spine, and the injuries will commonly involve the waist or lower pole of the kidney, where the 12th rib makes its impact. The kidney can also be damaged from a blow to the anterior (front) of the abdomen, just below the rib cage.

**SYMPTOMS AND SIGNS:** The cardinal sign of a renal trauma is hematuria (blood in the urine), which can be gross (visible with the human eye) or microscopic. It is important to know that absolutely no blood in the urine is acceptable; rather, it is always an indication of a problem. The athlete may also report low back and abdominal pain, sometimes with rigidity of the anterior abdominal wall and local tenderness. The athlete may also exhibit nausea and vomiting.

**INJURY MANAGEMENT:** This injury should be checked immediately by a physician. Once the history and physical examination are complete, a careful urinalysis should be performed. The treatment of athletes with renal injuries will depend on the extent of the injury. Athletes with minor injuries that only present microscopic hematuria need only observation for 48 to 72 hours and a urologic follow-up care. Those athletes who present a gross hematuria are usually hospitalized overnight and treated with antibiotics until the gross hematuria is no longer evident. Obviously, if the hematuria cannot be stopped by conservative measures, surgery may be necessary.

Fluid intake should be gradually increased for athletes who have suffered kidney contusions.

**COURSE OF HEALING:** After diagnosis and treatment of a kidney contusion serious enough to present blood in the urine, the athlete will need to miss at least two weeks of training and competition. During this period of time, even activities of daily living should be minimized and long periods of bed rest are recommended. The athlete must be cleared by the treating physician before he/she can return to training and competition. The athlete should be closely monitored once he/she returns to activity. If there is any recurrence of hematuria, the athlete will most likely held out of activity for the remainder of the sport season.