The topic to be discussed has already been mentioned several times at this meeting, i.e., the so-called "isolated tear of the anterior cruciate ligament". This entity was vigorously described by Mr. MURDOCH of Dun­dee, Scotland, in about 1956. He was a colleague of Professor SMILLIE, who himself felt that this lesion was not really isolated but occurred because of impingement phenomena most probably related to meniscal pathology. About 1970 in the United States, two groups, perhaps working synchronously, began to emphasize the lesion of the isolated tear of the anterior cruciate ligament. One group was located at West Point, New York, representing the U.S. Military Academy. The other group was located in Atlanta, Georgia, headed by Dr. FRED ALLMAN. They both initially described a surprisingly high incidence of these lesions, es­pesially Dr. ALLMAN. Later on, after some of the early investigators had left West Point, having been transferred elsewhere as career of­ficers, the incidence appeared to decline.

Criteria for Possible Diagnosis

In order to evaluate properly this entity, it is important that we delineate the lesion exactly as described by its principal investiga­tors so that you may compare your impression with that as outlined at West Point. According to West Point doctors, an isolated tear of the anterior cruciate ligament is a diagnosis which is:

Primarily related to acute knee injuries,
Possibly related to a subacute knee problem, and
Rarely related to chronic knee derangement.

In order to fulfill all the criteria of an "isolated tear of the an­terior cruciate ligament" as described by the West Point group, six components must be present:

1. A "pop" at the time of injury, i.e., the patient feels a very de­finite snap in the knee.
2. This discrete injury must be a disabling phenomenon, i.e., the pa­tient is absolutely unable to continue his activity.
3. Gross swelling via hemarthrosis occurs within 12 hours, a point forcefully stressed by COLONEL FEAGIN, one of the principal investi­gators.
4. The injury occurs without contact, either with an object or another player. Instead, the injury occurs in a deceleration phase, usually while trying to change direction. The player is running, suddenly decides to slow down and turn, becomes confused, and injures his knee.
5. No other clinical diagnosis is apparent after a thorough search of both compartments of the knee through a rather small anteromedial incision.
6. At the time of their original presentation, the investigators stated that there was no detectable instability in the knee. Recent opinions
have been that one can detect slight anteroposterior play, especially with a stress machine such as that described by Dr. KENNEDY.

Using the above criteria, the investigators noted a rather high incidence of this lesion. Dr. ALLMAN, for instance, at one time stated that one-third of all the ligamentous injuries of the knee that he encountered in a single year were isolated tears of the anterior cruciate ligament. (This impression seemed to be incompatible with the observations of most other orthopedists in the United States who were seeing similar types of injuries.) Also, the West Point group and Dr. ALLMAN stated that in their early postoperative evaluations that they were having excellent results with direct repair of the torn anterior cruciate ligament. Many of these patients went back to American football, and many others were able to stay in the Army, being apparently capable of fulfilling the rigid physical requirements of the U.S. Army.

Certain subsequent events occurred. As stated above, many of the initial investigators left West Point. Their successors did not find an incidence of this lesion anywhere near that of the original group. The introduction of arthrography and arthroscopy as part of the workup obviated some of the limitations of the small anteromedial arthrotomy incision, and other lesions besides the torn anterior cruciate ligament were noted. For instance, Dr. KENNEDY in discussing one of the original papers, mentioned associated tears of the lateral meniscus. Semantically, it would be difficult to accept a diagnosis of "isolated tear of the anterior cruciate ligament plus a torn lateral meniscus". Parenthetically, although unknown at the time, some of Dr. KENNEDY'S cases may also have had anterolateral instability.

At the time of the introduction of the entity of the isolated tear of the anterior cruciate ligament in 1970 or 1971, there existed in the United States an almost nihilistic attitude toward the anterior cruciate ligament. The feeling existed that the anterior cruciate ligament just did not play an important role; therefore why all the hullabaloo about a torn anterior cruciate ligament? No specific treatment was indicated anyhow. At the present time in 1977, especially as discussed at this meeting, the feeling exists that the anterior cruciate ligament is a very important ligament, that it has significant functions, and that, if possible, it should be repaired or reconstructed.

In a subsequent article with more prolonged follow-up, COLONEL FEAGIN recently reported a different set of results than those initially reported. The article appeared in the American Journal of Sports Medicine, a publication of the American Orthopedic Society for Sports Medicine, an organization founded by Dr. O'DONOGHUE six years ago. In that article, COLONEL FEAGIN stated that the results were no longer so favorable. Instead of the initial 90%-95% excellent results, after 5 years only about 30% had a satisfactory result. Over 70% had begun to note the development of significant symptoms. According to his report, something dynamically was happening to these knees:

Progressive deterioration of knee function, probably because of secondary attritional stretching of juxta-articular supporting structures (capsule and ligaments)

Ultimate tears of one or both menisci

Eventual articular cartilage damage

The incompetence of the anterior cruciate ligament may even be a causative factor in malfunctioning of extensor mechanism.