Timing of surgery for knee injuries may not affect outcomes

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Multiple-ligament knee injuries resulting from traumatic knee dislocations - such as high impact car accidents or certain sports are uncommon, and the optimal timing of surgical repair or reconstruction has not been definitively established.

According to a new study published in the December 2009 issue of *The Journal of Bone and Joint* Surgery *(JBJS)*, patients who undergo surgery more than three weeks after a multiple ligament knee injury (called chronic intervention treatment) may have comparable outcomes to those who undergo surgery within three weeks of injury (called acute intervention treatment) with regard to knee stability. Additionally, researchers found that early mobility is associated with better outcomes than immobilization in those patients who are treated within that three week time period.

"After a review of the available literature, we found that chronic intervention provides results that are at least as good as acute intervention, despite some recent studies showing that acute intervention may be better," said lead author of the study William R. Mook, MD, who conducted the study with colleagues from the Department of Orthopaedic Surgery at the University of Virginia in Charlottesville.

Dr. Mook and his colleagues surveyed 24 retrospective studies that included 396 knees treated surgically for the most severe multiple-ligament knee injuries. Patients were managed either acutely, chronically, or with a combination of both interventions, which is called

staged treatment. The researchers also studied whether the patient's leg should or should not be mobile or immobilized after surgery.

The study found that:

- patients receiving acute intervention had less stable knees and were not able to bend their knees as far as those who were treated with chronic intervention; and
- patients who underwent staged procedures (treatment from both the acute and chronic intervention stages) reported better outcomes than those treated just early or late.

"The reasons for this are not clear. The patient population is heterogeneous, and surgery can be delayed for a variety of reasons. It is difficult to tell which procedures were delayed intentionally and which were delayed due to other medical reasons occurring as a result of their initial injury," Dr. Mook said.

This literature review suggests the following:

- Surgical reconstructions within three weeks of the injury and those performed later provide comparable knee stability.
- In patients treated within three weeks of injury, early mobility (compared with immobilization) is associated with better outcomes. However, early surgery is highly associated with range-of-motion limitations.
- Patients reported better outcomes and fewer range-of-motion limitations with a combination of acute and chronic procedures.

However, additional treatment for joint stiffness may be required in these patients.

- In patients treated within three weeks of their injury, more aggressive rehabilitation may prevent the need for additional treatment for joint stiffness.

Previous studies have indicated that early treatment provides better outcomes, but that may not be the case. "Although recent evidence suggests that acute intervention is superior to chronic interventions in all outcomes, we found that chronic intervention may provide knees with equal stability as those managed acutely," Dr. Mook concluded.

Source: American Academy of Orthopaedic Surgeons (news : web)