EXCISION OF PATELLA FOR RECURRENT DISLOCATION

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Removal of the patella has been recommended for recurrent dislocation, but it has not been emphasised that this operation has distinct advantages over "realignment" procedures. I now regard removal of the patella as essential. Unsuccessful results have been reported for the reason that the regenerated patella, or the fibrous tissue in which it forms, has continued to slip over the femoral condyle. This has not occurred in any of my patients. When suturing the capsule and ligaments after removal of the bone, I take care to direct the pull of the strong outer portion of the quadriceps tendon to the inner side of the ligamentum patellae, and it may well be that it is this precaution which prevents recurrent displacement.

Most surgeons have seen osteo-arthritis (sometimes with recurrence of dislocation) arising some years after realignment operations. This has usually been attributed to friction between the patella and femur because the patella runs in a new line, so that chondritis develops. From my observation of patellae removed—one even at the early age of eight years—I believe that retropatellar chondritis is due to the recurrent dislocation, that it is present before any operation is done, and that it progresses inevitably to osteo-arthritis. It follows that any primary operation other than patellectomy must give rise to late osteo-arthritis.

I first performed patellectomy for this condition a little over three years ago. Having embarked upon a realignment operation, with swinging of a tongue of capsule from the inner to the outer side, it occurred to me that the recurrent displacement must cause damage to the slipping bone, and inspection did in fact reveal that the articular cartilage over the outer half, and on the vertical ridge, was deeply fragmented and pitted. Several small particles had separated and were floating free in the synovial fluid. The articular cartilage of part of the external femoral condyle was similarly fragmented over an area the size of a penny; and a central area the size of a halfpenny was completely denuded of cartilage, with bare bone exposed. The site of this cartilaginous injury was in the front of the external condyle, one and a half inches below the upper limit of the articular surface and near the angle of the condyle—just where the patella jumps over when dislocating. The patella was removed, and on closer examination the damage was so apparent and impressive that in all subsequent cases of truly recurrent dislocation I have removed the bone. Similar cartilaginous damage to the patella, and sometimes to the femur, has now been seen in six consecutive cases. The injury to the patella is not always confined to the middle and outer sides. Sometimes it has extended to both sides, but the central area is always most affected. Sometimes there is a band of thickened, soft, and oedematous cartilage forming a horizontal ridge which is much more apparent than the normal vertical ridge. Recovery has always been uneventful. Ultimate function has approximated no less closely to the normal than is usual after a good patellectomy. In no case has there been recurrent slipping of the tissue which forms in place of the patella. A typical case illustrates the findings (Figs. 1–2):

Miss P. H., aged 17 years. In February 1944 this girl, who was a good witness, complained that one or other knee gave way intermittently, with pain and displacement of the knee-cap. She reported that on two occasions the dislocation had been reduced under anaesthesia by her doctor. At the time that I saw her the left knee was giving most trouble: both patellae were of the type that one is accustomed to associate with recurrent dislocation. On February 23, 1944, patellectomy was carried out on the left side. The bone was shelled out of the capsule and tendons through a vertical approach. The posterior surface was fragmented; a small patch of the femoral condyle was also fragmented but there was no actual erosion. She was walking within fourteen days and in eleven weeks had regained a full range of movement with almost complete control.
In February 1947 she complained that the right knee had never ceased to give trouble; dislocation was becoming more frequent and she wished to have the same operation performed on this knee. The left knee had given no trouble since the operation; she regarded it as normal; and clinical examination showed normal function. On March 19, 1947, the right patella was removed. The usual changes were found in its articular surface. There was no erosion or fragmentation of the femoral articular cartilage, but at the spot usually affected a small leash of fine vessels had grown about half an inch into the cartilage from the articular margin.

**Fig. 1**

Taken from colour photograph at operation. Fig. 1 shows the patella reversed and partly extracted. Note the horizontal, yellow-coloured, oedematous ridge; and the fragmentation of the articular cartilage in which a probe has been inserted. Fig. 2 shows the femoral condyle. Note the fragmentation and erosion of the condyle of the femur at the point indicated by a probe.

**Fig. 2**

**Summary**—Patellectomy is at present the best operation for recurrent dislocation, not only because the immediate result is excellent, but because it avoids the later arthritis which must inevitably arise if a patella so damaged is retained.

*Vol. 30 B, No. 1, February 1948*
Case 1. Short femur and congenital coxa vara. The early stage of the short femur is seen in Fig. 1. A still earlier radiograph was published in a previous report (Golding, 1938), but it was a glass plate and is no longer available. Seven years later there is typical congenital coxa vara (Fig. 2).