OSTEOCHONDROSIS OLITIS
FOLLOWING LEGG-CALVÉ-PERTHES' DISEASE

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Osteochondritis dissecans of the femoral head occurring as a complication of Legg-Calvé-Perthes' disease is rare. I have found only two cases in a study of thirty-four hips observed for thirty years. Only six cases can be traced in the literature (Haas 1937, Freund 1939, Brailsford 1953, Evans 1958, Freehafer 1960, Morris and McGibbon 1962). The patient described by Freehafer was observed for thirteen years and the one described by Morris and McGibbon for seven years. The other cases were described without detail. The aim of this paper is to report two patients who developed osteochondritis dissecans after Legg-Calvé-Perthes' disease and who have been observed for a period of thirty years.

CASE REPORTS

Case 1—A boy aged seven years was admitted to Biddulph Grange Orthopaedic Hospital in 1933 on account of pain in the left hip and a limp. There was wasting of the muscles of the left thigh and restricted abduction of the left hip (Fig. 1). Radiographs showed appearances characteristic of Perthes' disease. The upper femoral epiphysis was flattened and irregular, and there was a dense area of sclerosis in its centre (Fig. 2). He was treated by immobilisation on a frame for nine months. There was good re-formation of the upper femoral epiphysis, though it remained a little flattened compared with the opposite hip. At the end of treatment in June 1934 the area of sclerosis was not clearly visible in the antero-posterior view (Fig. 3). The patient emigrated to Canada in 1954 and now works as a machine operator. In 1964 the patient had an occasional ache in the left groin and buttock in cold weather, and only rarely limped. He performed general duties in the Royal Air Force for six years during the last war. During that period he played football but had not since taken part in sports. When seen in

![Fig. 1](image1.jpg)  
![Fig. 2](image2.jpg)

Case 1. Figure 1—Photograph on admission aged 7 years, showing restricted abduction of the left hip. Figure 2—Radiograph at the same time showing flattening of the left femoral epiphysis and an area of increased density in the centre of this epiphysis.
1964 he could walk and dance and run in a normal way. Movements of the left hip were full except for a terminal restriction of lateral and medial rotation. Radiographs (Figs. 4 and 5) showed a sclerotic "cap-type" of head with some broadening and, in the lateral view, a large, clearly outlined area of osteochondritis dissecans. There was no loose body formation. This patient was seen by the writer in 1953. Osteochondritis dissecans was visible at that time and there has been no change in the radiological appearances between 1953 and 1964.

**Case 2**—A boy aged ten years was admitted to Biddulph Grange Orthopaedic Hospital in March 1936 suffering from Perthes’ disease of the left hip. The hip had previously been immobilised
in a plaster spica for twelve months at another hospital and then he had been allowed to walk, without restriction, for a further nine months. When admitted there was wasting of the muscles of the left thigh, occasional pain in the region of the left groin and restricted abduction of the left hip (Fig. 6). Radiographs on admission showed healing left Perthes' disease, the upper femoral epiphysis being a little flattened compared with the opposite side. There was a localised area of dense sclerosis in the centre of the head (Fig. 7). The hip was immobilised for a further seven months in a plaster spica in hospital. Radiographs in October 1936 showed progressive re-formation of the upper femoral epiphysis. The area of sclerosis was only just
visible in the centre of the epiphysis. Radiographs in July 1941 showed an area of osteochondritis dissecans (Fig. 8). As a young man he emigrated to Australia where he now works as a sales representative. In 1964 he suffered some aching in the left hip at night, worse after intense activity during the day. However, he enjoyed sport, including swimming, cricket and tennis. There was no pain on walking, but there was aching in the left hip after prolonged standing. There was slight wasting in the left thigh muscles and terminal restriction, by 10 degrees, of full flexion, extension, abduction and lateral rotation. Medial rotation was full. Radiographs (Fig. 9) showed clearly defined osteochondritis dissecans on the upper aspect of the head of the femur in both the antero-posterior and lateral views of the left hip. The head of the femur was well contained in a normal acetabulum and there was no loss of joint space. This patient's condition was previously reviewed in 1954. There has been slight clinical deterioration between 1954 and 1964; however, this deterioration has not been sufficiently marked to need medical advice and it will be clear from the above description that his symptoms are still slight.

**DISCUSSION**

It is perhaps of some interest to note several common features in these two cases. Firstly, a localised, small area of increased density is visible in the centre of the epiphysis during the active phase of the Legg-Calvé-Perthes' disease. This area of density then became less obvious in the subsequent antero-posterior radiographs (lateral radiographs are not available of Case 1 and only available five years after onset in Case 2). Secondly, no significant change is present in the radiological appearances of the area of osteochondritis dissecans, certainly over the last eleven years in Case 1 and twenty-three years in Case 2. The area of apparently devascularised bone has not united to the femoral head but at the same time it has not become separated as a loose body. Thirdly, the clinical state of both patients remains excellent. Operative treatment has not been required. In only one patient in the literature has operation been carried out (Freehafer 1960) and even this was perhaps not necessary.

**SUMMARY AND CONCLUSIONS**

1. Two cases of osteochondritis dissecans after Legg-Calvé-Perthes' disease observed for thirty years are described.
2. Osteochondritis dissecans of the hip can remain in an apparently unchanged state for many years and in these two patients is associated with excellent function, not requiring surgery.

These patients were originally treated by Sir Harry Platt in 1933 and 1936, and I am grateful to him for permission to publish these case histories. My thanks are also due to Dr Cameron S. Allen of Vancouver and Mr W. J. Betts of Adelaide for kindly reporting the present state of these two patients.

**REFERENCES**


