



## Traumatic bilateral posterior dislocation of the hip — an unusual mechanism resulting from an agricultural accident

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**Traumatic bilateral posterior dislocation of the hip is a rare injury, usually sustained in automobile accidents or less commonly in automobile-pedestrian accidents. An unusual mechanism of such an injury is reported in the setting of an agricultural accident : a heavy load fell on the pelvis of a farmer, while he was bending forward. This case highlights the importance of following health and safety guidelines at work, and above all common sense when working in hazardous situations.**

### CASE REPORT

A 30-year-old farm worker was discharging a large pigpen containing eight pigs from a flat back lorry, by crane. The man was underneath the suspended pigpen, flexed at his waist, when the crane cable gave way. The pigpen fell onto his pelvis, forcing him to the ground, momentarily resting on him.

On admission to hospital he complained of severe pain around both hips. Examination revealed both hips flexed, adducted and internally rotated with movement limited by severe pain. The pelvis was stable to compression, and neurological examination of the lower limbs was normal. Plain radiographs confirmed bilateral posterior dislocation of the hip, in the absence of associated acetabular fractures (fig 1).

After resuscitation he was promptly taken to theatre where, under general anaesthesia, the hips were relocated by the method described by Allis (1).

Postoperatively the patient developed transient bilateral sciatic nerve palsy with foot drop: he complained of paraesthesiae over the dorsum of the feet and the lateral aspect of the legs, while dorsiflexion power of the foot reached grade 3. A CT-scan showed satisfactory reduction and absence of local fractures or osteochondral fragments. After 48 hours of bed rest, analgesia and skin traction, gradual mobilisation was started ; weight bearing was allowed as tolerated. One week after injury the patient was transferred to his local hospital, where he continued gradual mobilisation for a further three weeks. At follow-up, three months after discharge, the patient had made a good recovery and had returned to work. He had full mobility, complete resolution of his bilateral sciatic nerve palsy and no radiological evidence of avascular necrosis of the femoral heads.

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**Fig. 1.** — AP radiograph of the pelvis, demonstrating bilateral posterior dislocation of the hip (Thompson and Epstein Classification Type 1).

## DISCUSSION

Bilateral hip dislocation is very uncommon, encompassing about 1.25 % of all hip dislocations (5). Most traumatic posterior dislocations of the hip are caused by head-on automobile collisions. The mechanism of injury for these “dashboard dislocations” was described by Funsten *et al* (3), and involves the flexed knee striking the dashboard. A similar mechanism involves the loosening of the vehicle engine on impact, with subsequent backward migration into the leg space. The subsequent force is transmitted along the femur, and the femoral head is ejected posteriorly from the acetabulum, if the knee is extended, while the hip is flexed and in neutral rotation (2).

Certainly the insult sustained by this farm worker would be a variant of the above mechanisms. The force exerted by the falling pigpen acted on the posterior aspect of his pelvis. His hips were flexed and knees extended, and the axial force resulted in bilateral dislocation of the hip.

Accidents occurring in the agricultural industry are all too common in rural areas. The fatal injury rate in agriculture in the UK for 2002/2003 was 9.2 fatalities per 100,000 workers, the highest of

any industrial sector. In the 10-year period from 1992 to 2002, a total of 497 people have been killed as a result of agricultural work activities and many more have been seriously injured. The main causes of death continue to be transport related, i.e. vehicle overturns, accounting for 33% of fatalities, while falling from a height accounts for 18%, and being struck by moving or falling objects for 14% (4).

It is clear that agriculture in the UK has not kept pace with other hazardous industries in reducing its injury rate, despite being identified as a priority industry by the Government’s Health and Safety Executive, a trend mirrored in other countries. Also in the United States, between 1960 and 1990, the mortality rate for agriculture decreased with only 28%, while it decreased with 65% for mining and with 55% for construction (6).

From this it may be reasonable to deduce that, to date, farmers and their families appear unable or unwilling to fully implement safety information and guidelines. The great challenge ahead lies in developing further strategies, which will influence and modify the pattern of work behaviour, and result in the elimination, reduction, or control of physical hazards that may cause injury in agriculture.

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