Clinical record
In May 2009, a 17-year-old woman in the dance floor audience at a rock concert was performing “air guitar” — a form of dance and movement in which a performer mimes to rock or heavy metal guitar music, commonly requiring enthusiastic jumping and leaping about a “stage”. While performing a manoeuvre involving a jump into the air, she landed awkwardly on her right leg. She noted immediate intense right knee pain with obvious patellar deformity. An ambulance was called, and a dislocation of the right patella was diagnosed. Under methoxyflurane inhalation, ambulance officers reduced the dislocation by manoeuvring the knee into full extension.

On arrival at the emergency department, the patient complained of pain “everywhere” in the knee. There was no obvious swelling or deformity of the knee joint. There was tenderness over both the medial and lateral collateral ligaments, with minimal patellar tenderness. She had full painful range of movement. Radiological examination of the knee showed a joint effusion with lateral subluxation of the patella. There was a 2 mm ossicle lateral to the lateral femoral condyle, which may have represented an acute avulsion fragment. A compression bandage was applied, and the patient was discharged with analgesia and crutches, with follow-up to be undertaken with her general practitioner.

The patient re-presented to the emergency department 36 hours later with a painful and swollen knee joint. After discussion of treatment options with the patient and her mother, a decision was made to proceed to arthroscopy. At arthroscopic debridement, a tense haemarthrosis was released. A bleeding point was identified at the patellar attachment of the torn medial patellofemoral ligament. A synovectomy of the affected area was performed, and haemostasis of the local bleeding vessel was achieved with diathermy (Box). There was minor chondral damage about the medial patellar facet. Other joint structures were intact and there was no fracture.

Discussion
Dislocation of the patella is an injury more commonly seen in young athletes and usually spontaneously reduces at the time of injury. There has been no report in the medical literature of a knee injury sustained during a musical performance. Although the literature describes several maladies attributed to guitar playing, such as wrist injury, overuse injury to the digits, and irritation of the skin secondary to exposure to the instrument's surface, there are no reports of an acute physical injury due to guitar playing. There is a single internet report of an acute injury sustained while playing a guitar-like instrument — an avulsion injury of the lateral condyle of the left femur, incurred while playing the video game Guitar Hero.

An internet search using Google found numerous reports of acute injuries attributed to the performance of air guitar. The Chicago Sun-Times reported an unspecified back injury to the reigning Chicago Region Air Guitar champion, while the winner of the United States Air Guitar regional competition in Brooklyn “rooked so hard during a daredevil performance that doctors had to amputate a toe she broke during the gig.” There are also reports of a knee injury as a result of jumping from a height during a performance and an ankle injury sustained after jumping from speakers. There has even been a report of death due to air guitar — a student in Singa-
pore fell to his death from a building when he was “jumping up and down on the bed placed against an open window while mimicking a rock guitarist”.\(^{12}\)

Our case suggests that injuries due to the performance of air guitar are a source of previously unrecognised and unreported morbidity and demonstrates that, even though the instruments used in air guitar are imaginary, the injuries sustained are quite real. Rock music may be bad for your knees as well as your ears.

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Competing interests

None identified.

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References


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