Hip Instability Possible Without Trauma

Just because you've never knowingly injured your hip doesn't mean you don't have a hip problem. That's one conclusion from this review article on the topic of hip instability.

Hip instability can include subluxation (partial dislocation), complete dislocation, and microinstability. The last classification (microinstability) is just what it sounds like -- too much looseness in the joint but without a big enough shift in hip position to cause a subluxation.

Many people with hip instability have a known etiology (cause). It could be from a stretching of the ligamentous joint capsule that helps hold the hip in the socket. Or a tear in the labrum (fibrous cartilage around the rim of the hip socket). If there's no known history of injury, then the condition is referred to as atraumatic (without trauma) instability.

With atraumatic hip instability, there may not be a specific injury but there is still usually a reason the problem develops. There could be an underlying systemic disease affecting the soft tissues (e.g., Ehlers-Danlos, Marfan, or Down syndrome). Abnormal anatomy of the bones or soft tissues could also contribute to the problem.

The diagnosis of traumatic or atraumatic hip instability can be difficult. Patients complain of vague hip pain, often with reports of clicking, locking, catching, or "giving way" (leg gives out underneath them). Athletes engaged in sports such as football, rugby, bicycling, skiing, golfing, dancing, and hockey seem to be at increased risk for hip instability from injury or repetitive motion.

After taking a careful patient history, the surgeon will perform specific tests as well as order appropriate imaging tests to confirm the diagnosis. It may take special MRIs with dye injected into the joint and/or arthroscopic examination to make the final diagnosis.

Those two tests along with X-rays help the surgeon inspect the hip anatomy to look for any deformities, tears, or other structural changes that might lead to instability. CT scans show any loose fragments of bone or cartilage inside the joint. Fractures of the acetabulum (hip socket) also show up on CT scans. Of course, a patient who can actively pop the hip in and out of the socket has a clear case of hip instability.

Once the diagnosis has been made, forming a plan of care is next. Treatment depends on the extent of injury or damage as well as the degree of instability. Mild instability may be treated successfully without surgery.

Physical therapy, activity modification, and protected weight-bearing are tried first. Even with hip capsular laxity (looseness), physical therapy to improve core (trunk and abdominal) strength can be helpful. The surgeon may also inject a numbing agent into the hip to stop the pain. Sometimes just putting an end to the pain cycle is enough to ensure that conservative (nonoperative) care will work.

Surgery is more likely for the patient who has persistent pain and subluxation or dislocation. The type of surgery done depends on what's wrong. If the joint capsule (soft tissue) is too lax or loose, there are ways to surgically nip and tuck it closer together (called plication). Radiofrequency to generate heat can also help shrink the capsule and make it tighter.

If the joint is dislocated, reduction is necessary. To reduce a joint means to put the head of the femur (thigh bone) back in the socket. Sometimes reduction can be done with traction and without an open incision. In some cases, there are multiple problems to address at once -- the capsule is stretched, the labrum is torn, and...
the hip is dislocated.

The authors provide a diagnostic and treatment algorithm or path to help surgeons decide what's best for each patient. This is a flow chart that shows what choices or options are available from beginning to end. The treatment algorithm has three main pathways with multiple choices along each one.

For example, the authors note that if there is a dislocation, then a reduction is needed right away. Whether that is a closed or open reduction depends on the CT or MRI results. And the algorithm branches off for decisions under each of those headings.

Or if the hip is in place but there is a fracture of the socket, then get a stress X-ray may be needed. The next step will depend on the imaging findings but could include nonsurgical treatment, further testing, or open reduction with internal fixation (ORIF). Fixation refers to the use of pins, wires, plates, and/or screws to hold everything together until healing takes place.

In summary, evaluating and treating hip instability from trauma or other (sometimes unknown) causes can be a very challenging task for the surgeon. This review covers factors to consider including anatomy, biomechanics, history, physical examination, and imaging.

The information gathered from each of those areas is then used to create a management plan based on cause (traumatic versus atraumatic instability). This approach is not as scientific or evidence-based as it could be.

There is a need for future research to find better ways to evaluate, diagnose, and treat hip instability. The wide range of differences seen in the bony and soft tissues may account for the varied outcomes. But even that idea is just theoretical and needs to be studied further.