Evaluation of the Hip While Including Both the False Profile and Dunn Views

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Introduction

While hip x-rays are very common and usually just include two projections to complete a study, there can also be nonroutine views ordered. These uncommon views are often called the False Profile and Dunn views. In the picture below, it shows an AP Pelvis to show the difference in the anatomy shown when doing the False Profile and Dunn views.[6]

Purpose of These Views

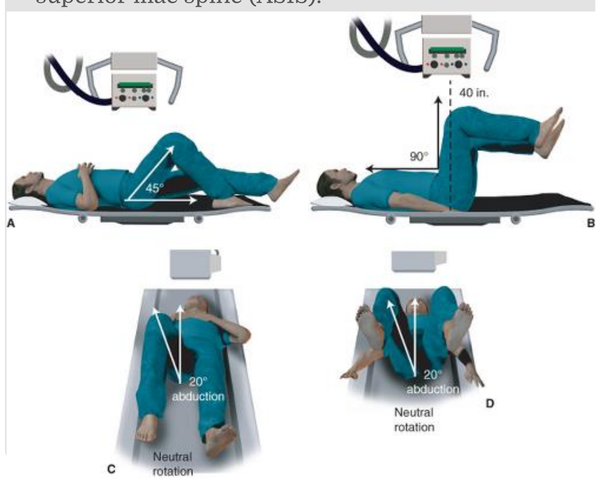
Just like any other exam, these views are ordered to obtain as much information as possible. These two projections though, are looking specifically at the femoral head and neck along with its mobility throughout the entire hip and its joint space. More specifically, these views are used to look at the cam morphology. Cam morphology is another name for cam deformity and describes one of the main causes of hip deformities, which is called femoroacetabular impingement.[1] That is, when the head or ball of the femur is not perfectly round, and the head-neck junction are abnormal. This is likely to happen in younger adults around ages 20-40 and is more common in males than females.[1] The picture below shows an x-ray of the pelvis, false profile, and dunn views which demonstrates the different ways in which the femoral head and neck are looked at throughout the entire hip joint.[3]

False Profile Positioning

For this projection, the patient is standing and facing the radiographer to start. The radiographer will then place the patient's pelvis in a 65-degree angle with the wall bucky. The affected foot should then be placed parallel with the cassette. Be sure to keep the arms out of the field of view as well. The central ray is placed on the femoral head of the affected hip.[4]

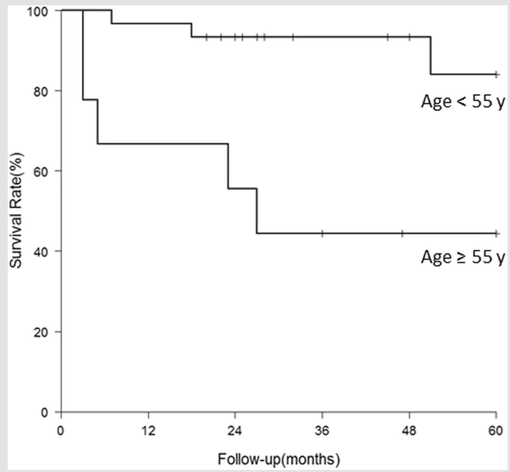
Dunn Views Positioning

The projections of the Dunn views include two different images with the patient flexing and abducting their leg in a couple of different degrees. While obtaining these images, the patient will be in a supine position. The patient will place the knee in a 90-degree flexion and then abduct the knee out 20-degrees. By placing the leg in that position, the first image will then be obtained.[4] For the second projection, the patient will only flex the knee 45-degrees which will allow them to keep their foot placed on the bed. The patient will then abduct the knee 20-degrees, and this will allow for the second image to be taken.[4] The central ray placement for both projections is the same and is placed midway between the pubic symphysis and anterior superior iliac spine (ASIS).[4]



Statistics

- More common in younger, active adults.[2]
- If left untreated, it may cause osteoarthritis.[2]
- When surgeries are done, they have an 80 % success rate.[2]
- Most surgeries allow for minimal amount of follow-up treatment.[2,5]



Outcomes and Treatment

As previously stated, by doing both projections, the radiologist can evaluate and look at the femoral head and neck. Many people go in and are seen because they are not able to freely move their hip and they are having pain.[3] The outcome will show main causes of hip pain and secondary arthritis. The cause of the pain is from the rubbing of the femoral head and the acetabulum. The joint space between both the femoral head and acetabulum are evaluated both anteriorly and posteriorly.[6] The ways in which the pathology findings are treated is by reducing physical activity, pain management, or injections. In very few cases will there be surgery. If surgery were to take place though, there will be slight bone cutting to clean and sculpt the joint so that there is a smoother fit.[6] Surgery is only done in the very severe cases and is usually very successful. Often, the patients will have a quick and smooth recovery.[6]

Conclusion

Overall, the anatomy of the hip can be very complicated, and the outcomes are endless. The False Profile and Dunn Views are just two projections that show different types of pathology and allow for many different diagnoses. Not only are these two projections used on young adults though, they can potentially be ordered on older individuals as well.

References

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