### Kurzfassung

Shoulder pain with or without trauma is a common complaint. MRI is the most often performed imaging study for evaluating shoulder pathologies. Rotator cuff (RC) disease and glenohumeral instabilities constitute the most common causes of shoulder pain and dysfunction in adults. MRI of the shoulder can be performed in different ways: unenhanced imaging, direct MR arthrography and contrast-enhanced imaging. Imaging should always be done with use of a dedicated shoulder coil for signal detection. Direct MR arthrography is a safe, relatively easy procedure that increases the diagnostic confidence and assessment in the evaluation of rotator cuff and labroligamentous disorders compared with unenhanced MR Imaging of the shoulder. It is the imaging modality of choice in patients with suspected instability or internal impingement. Surgeons increasingly request direct MR arthrography especially in younger patients. Contrast-enhanced imaging is beneficial and necessary in cases of inflammatory and tumorous lesions of the shoulder.

CT-arthrography of the shoulder has gained increased interest after implementation of MD-CT scanners due to the acquisition of isotropic 3D data sets. CT-arthrography may be an alternative in patients with contraindications to or failure of MR imaging due to the presence of metal hardware, MR-incompatible implants medical devices, claustrophobia, and obesity. CT arthrography outperforms MR arthrography in the assessment of osseous abnormalities such as glenoid bone loss in chronic instability. Additionally, institutional experience, availability of imaging equipment, and the preference of referring physicians may play a role in whether MD-CT arthrography or MR imaging is used in the diagnostic work-up of shoulder pathologies.

### Lernziele

1. to get familiar with different MR imaging techniques of the shoulder and their potentials and limitations.
2. to learn indications for direct CT arthrography for the evaluation of shoulder pathologies.