

Patients with joint pain from June 2020 to April 2024 (n=779)

Exclusion:

1. History of trauma to the examined joint (n=46)
2. Pregnant or breastfeeding women (n=7)
3. Severe joint deformities obscuring internal structures (n=12)

Patients finally enrolled in this study(n=714)

The GA group(n=486)  
The non-GA group(n=118)

Training cohort  
(n=422)

Internal validation  
cohort(n=182)

External validation  
cohort (n=110)

