



Management of Glenohumeral Joint Osteoarthritis

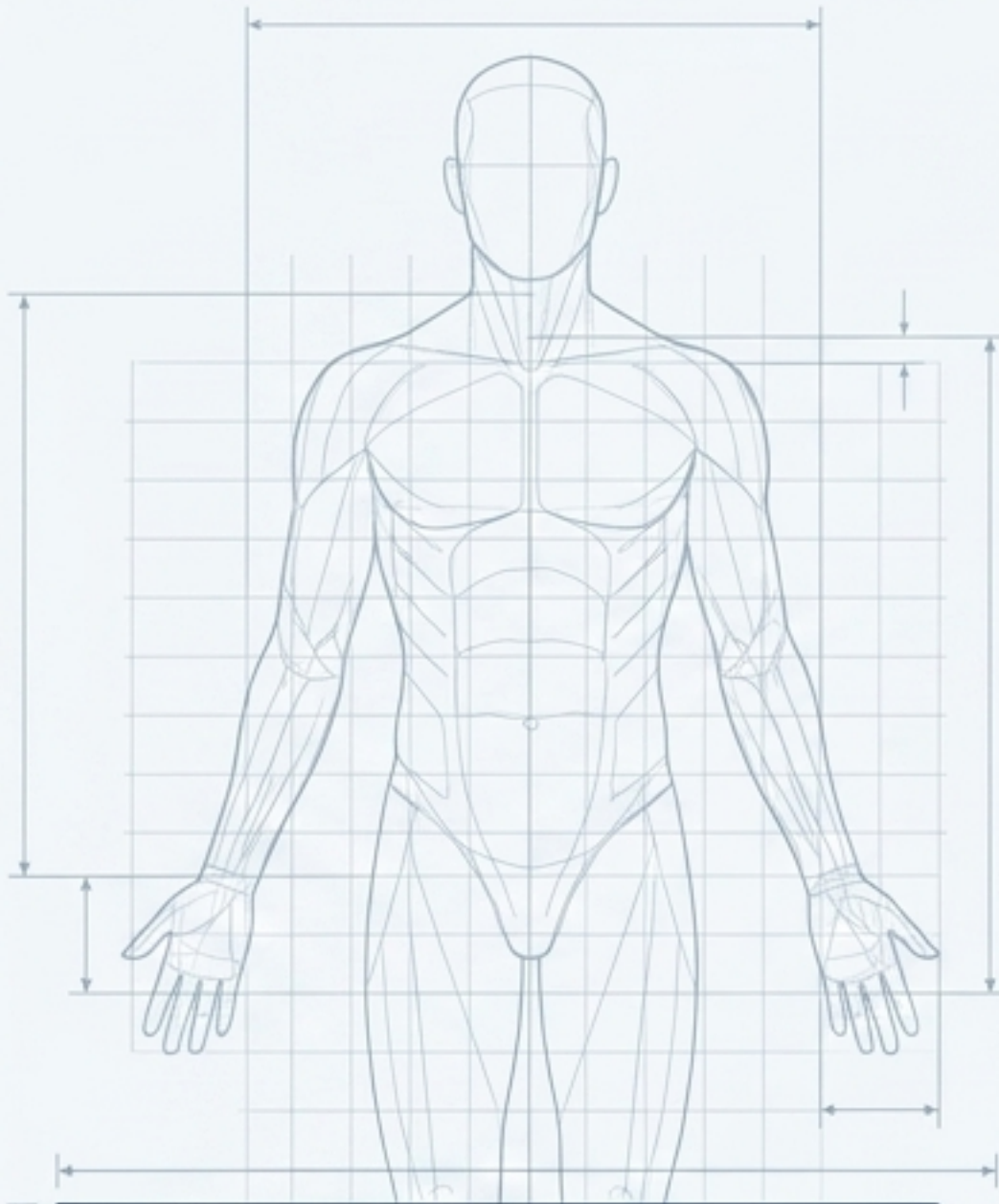
An Evidence-Based Clinical Blueprint for Diagnosis,
Surgical Decision-Making, and Patient Care.

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AAOS
AMERICAN ACADEMY OF
ORTHOPAEDIC SURGEONS

NotebookLM

The Universal Evidence Legend

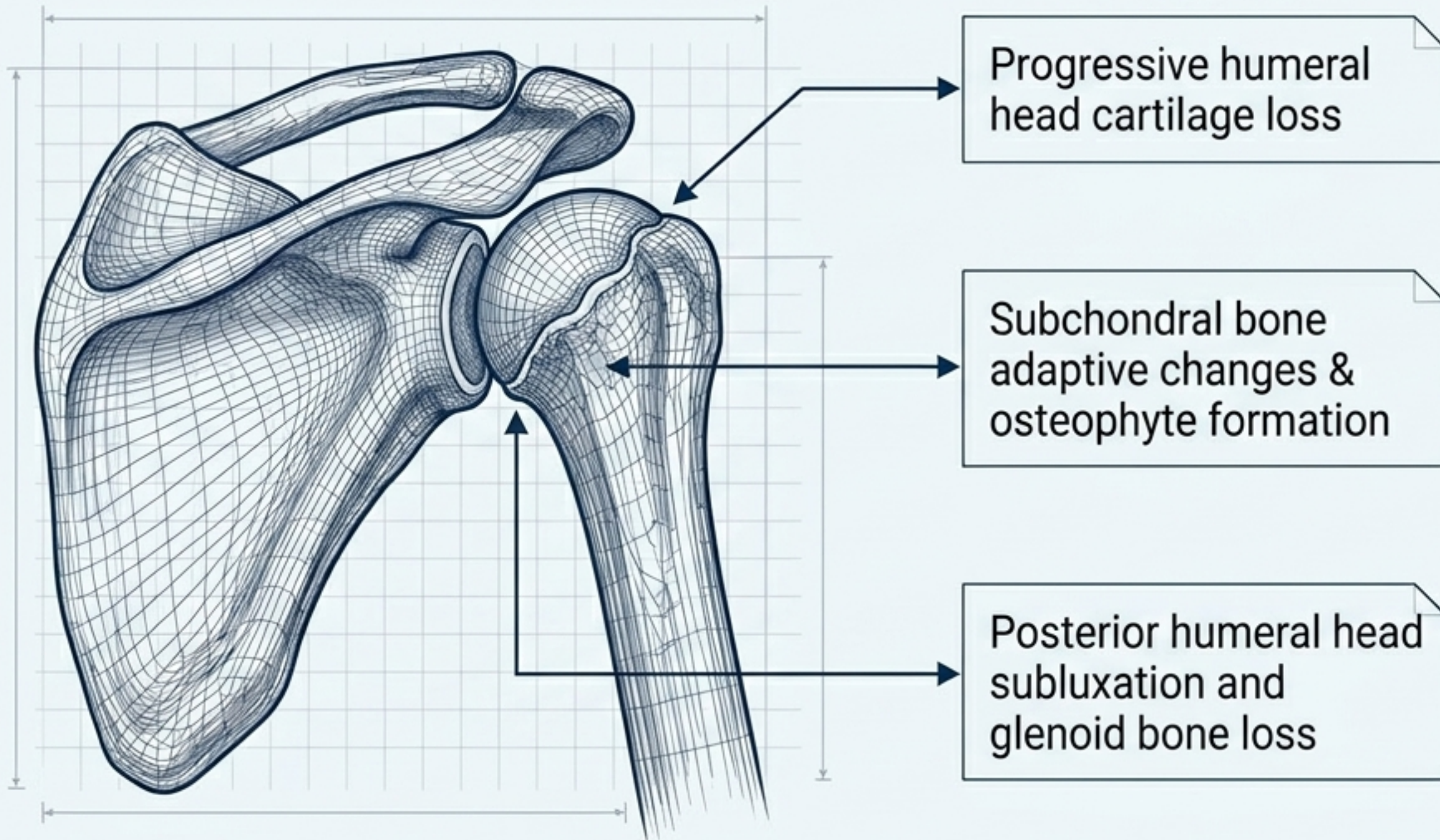


How to read this deck:

Every clinical recommendation on the following pages is tagged with its corresponding evidence badge. Look to the top right of every card to gauge data reliability.

	Strong Evidence. Two or more High-quality studies with consistent findings.
	Moderate Evidence. Two or more Moderate-quality studies or a single High-quality study.
	Limited Evidence. Low-quality studies, a single Moderate-quality study, or conflicting evidence.
	Consensus. No reliable evidence; recommendation based on clinical opinion.

The Pathological Architecture of Glenohumeral Osteoarthritis



Sidebar Data Grid

High prevalence:
Affects **5-21%**
of adults.

Radiographic evidence:
Found in **94%** of
women and **85%** of
men over age 80.

Hospital impact:
Average hospital
charge of **\$64,332**
per admission for
surgical intervention.

Standardizing the Imaging Record

★ ★ ★ ★ ★
CONSENSUS

The Essential Baselines



Axillary View



True AP (Grashey) View

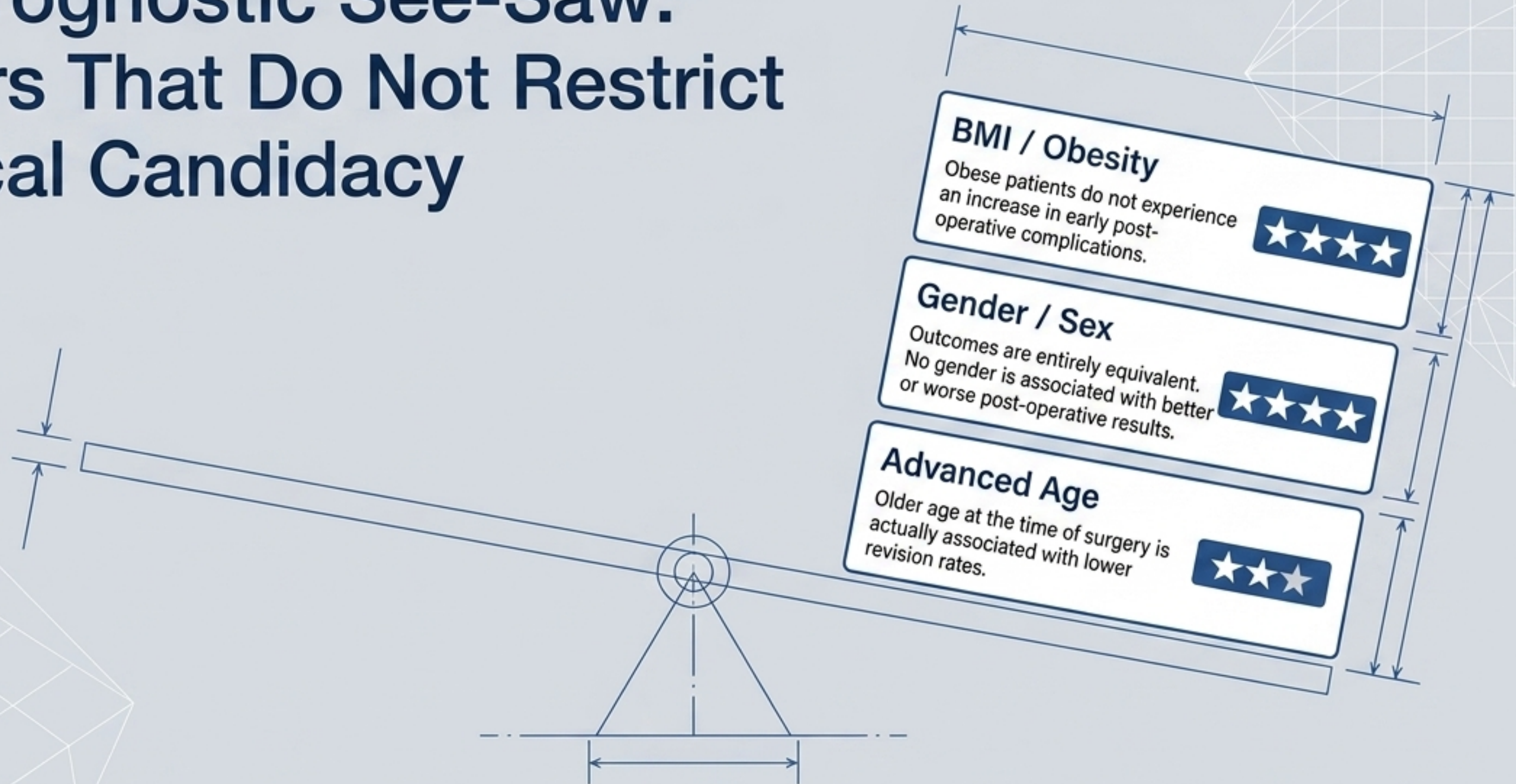
Advanced Imaging



Performed purely at the discretion of the clinician. 3-D CT scan software has gained popularity for assessing posterior glenoid bone loss, though evidence of its impact on implant survivorship remains unproven.

Accurate visualization of posterior subluxation is a mandatory prerequisite for arthroplasty planning.

The Prognostic See-Saw: Factors That Do Not Restrict Surgical Candidacy



Surgical access should not be restricted based on high BMI, gender, or advanced age alone.

The Prognostic See-Saw: Variables That Drag Outcomes Down



Cautionary Callout: ★★★★★ Pre-Operative Function

Both high and low functioning patients improve. However, patients with exceptionally high pre-operative function may experience less relative functional improvement.

The Patient Profiling Heatmap

Proceed with Confidence

BMI (Obesity) ★★★★★

Data shows no increase in early complications, or lower revision rates.

Gender ★★★★★

Data shows no increase in early complications, or lower revision rates.

Advanced Age

Data shows no increase in early complications, or lower revision rates.

Counsel on Expectations

High Pre-Operative Function ★★★★★

Ceiling effect on functional improvement.

Optimize Before Intervention

High Comorbidity Burden ★★★★★

Directly linked to higher complication rates and inferior outcomes.

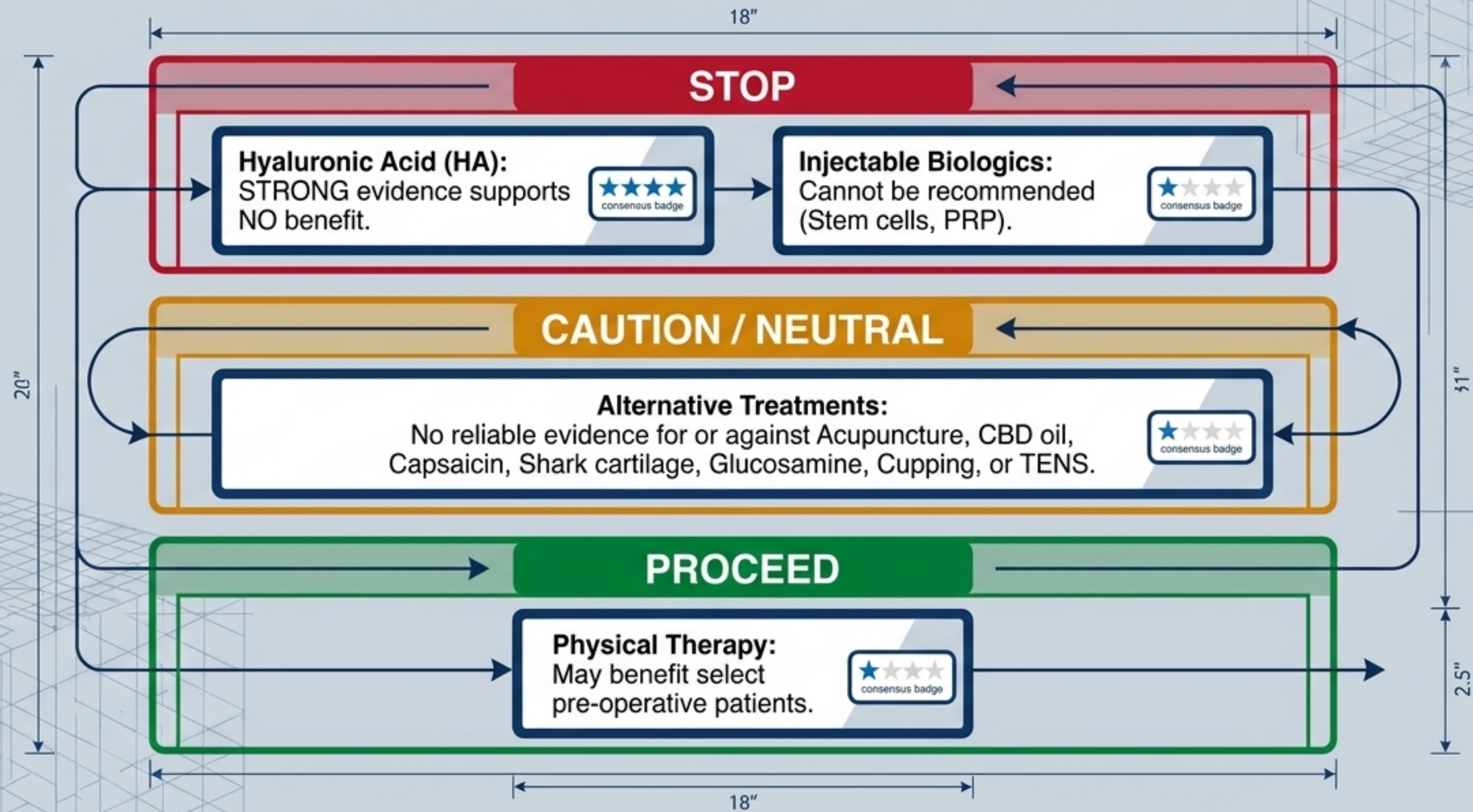
Smoking ★★★★★

Directly linked to higher complication rates and inferior outcomes.

Active Depression ★★★★★

Directly linked to higher complication rates and inferior outcomes.

The Non-Operative Filter: What Works and What Doesn't



The Pain Management Spectrum

Strongly Discouraged



Routine Opioid Prescriptions

Opioids should not be prescribed for routine and long-term pain management of glenohumeral OA.



Supported Strategies







Multimodal & Cryotherapy

- **Multimodal Protocols:** Non-opioid individual modalities provide added benefit for post-operative pain.
- **Cryotherapy:** Both continuous cryotherapy and cold packs are supported post-arthroplasty.

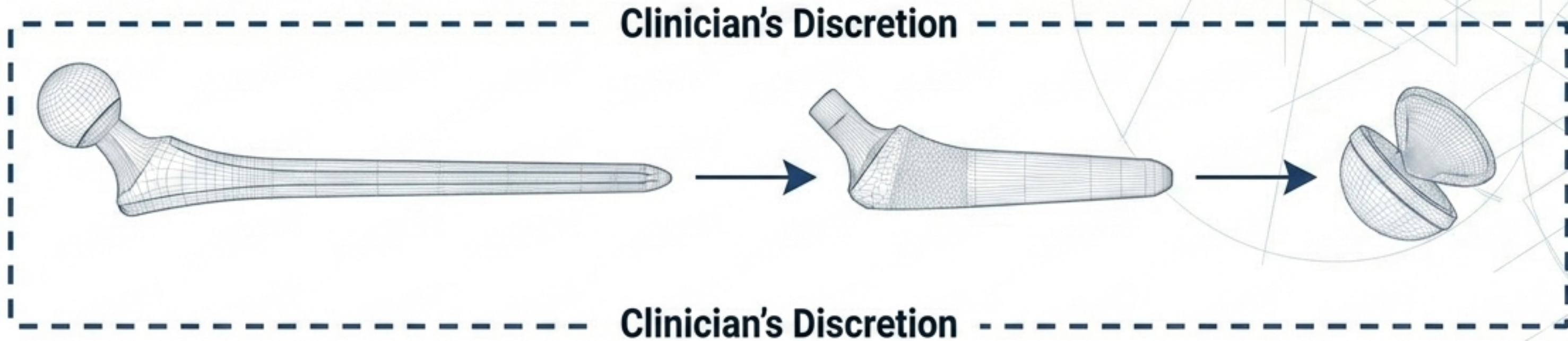
The Arthroplasty Showdown

Anatomic Total Shoulder Arthroplasty (TSA)  strong evidence	Reverse Total Shoulder Arthroplasty  consensus badge	Hemiarthroplasty
<ul style="list-style-type: none">• Best for: Function and pain relief in short-to-mid-term follow-up.• Prerequisite: Intact rotator cuff.• Verdict: More favorable than Hemiarthroplasty.	<ul style="list-style-type: none">• Best for: Select patients with excessive glenoid bone loss and/or rotator cuff dysfunction.• Verdict: An acceptable alternative pathway when anatomical limits are breached.	<ul style="list-style-type: none">• Verdict: Proven less favorable for function and pain relief compared to Anatomic TSA.

The Glenoid Component Matrix

<p>Pegged or Keeled Components</p> <p>Status: SUPPORTED</p> <p>Demonstrates less radiolucent lines. Used in patients with a well-functioning rotator cuff.</p> <p>★★★★</p> 	<p>Metal-Backed Cementless Components</p> <p>Status: DO NOT USE</p> <p>★★★★☆</p> 
<p>Polyethylene-Metal Hybrids</p> <p>Status: ACCEPTABLE</p> <p>★☆☆☆☆</p> 	<p>All-Polyethylene Components</p> <p>Status: ACCEPTABLE</p> <p>★☆☆☆☆</p> 

Humeral Stem Architecture: Clinical Latitude



Prosthesis Geometry: Stemmed, stemless, or resurfacing prostheses are all acceptable for TSA or hemiarthroplasty.



Fixation Method: Either cemented or cementless stems can be utilized safely in patients with a well-functioning rotator cuff.

Unlike glenoid components where metal-backed cementless designs are explicitly restricted, humeral stem selection currently allows for broad surgeon preference based on patient anatomy.

Surgical Technique: Soft Tissue Architecture

Subscapularis

Options: Subscapularis peel, lesser tuberosity osteotomy, or tenotomy.

Verdict: All are acceptable during arthroplasty.



Supraspinatus

Scenario: Small isolated, repairable tears.

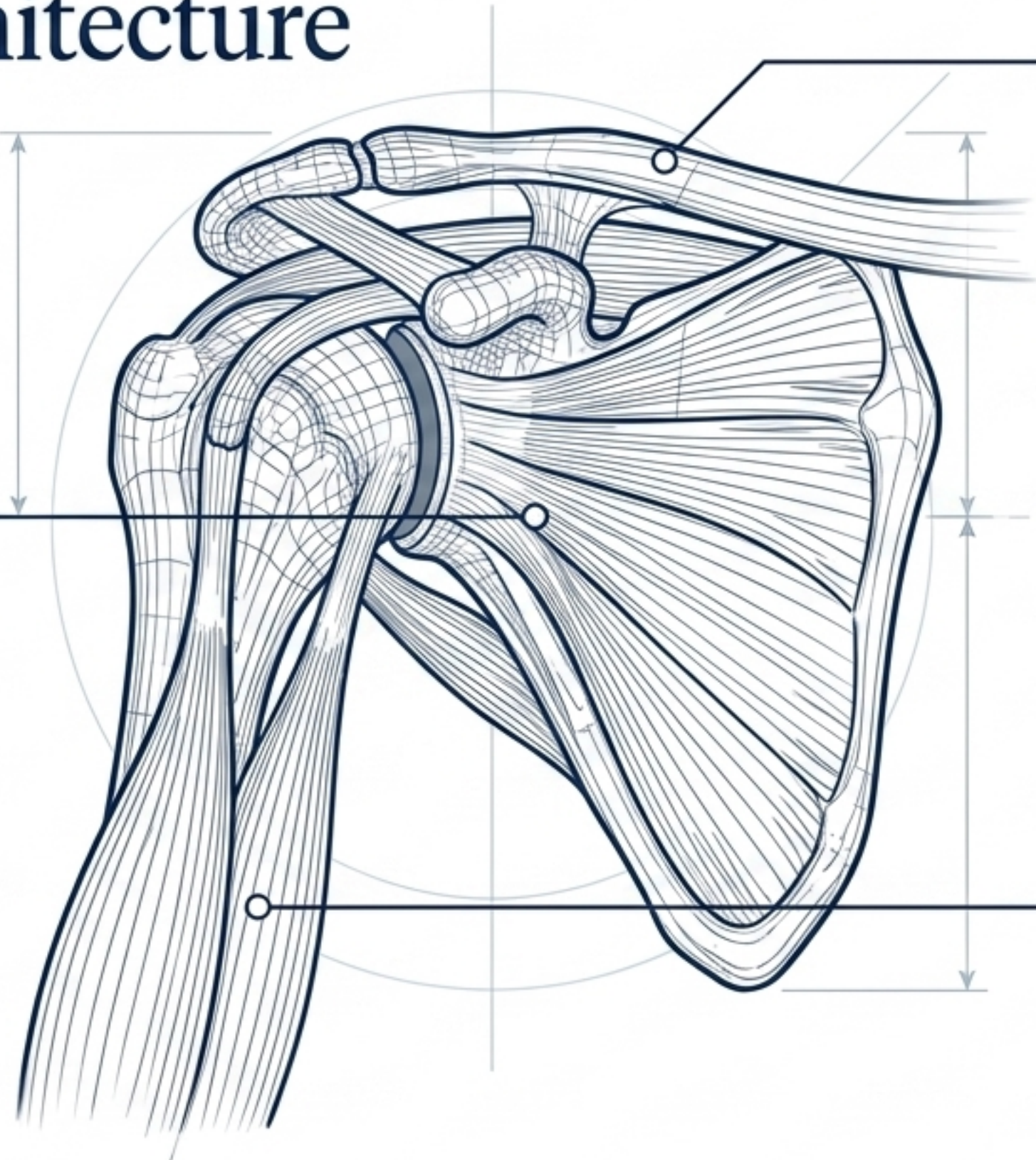
Verdict: Can safely proceed with Anatomic TSA.



Biceps Tendon

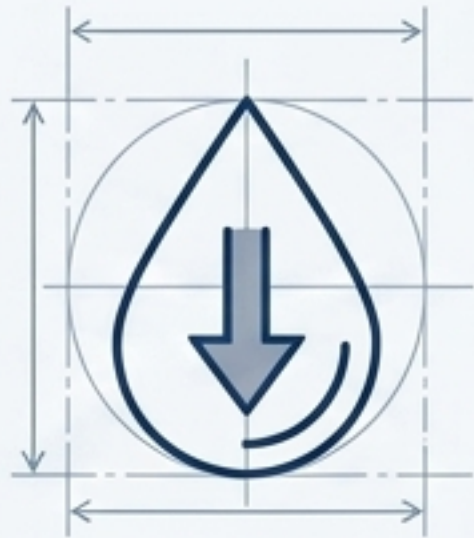
Options: Concomitant biceps tenodesis or tenotomy.

Verdict: Clinicians may consider during arthroplasty.



Perioperative Logistics & Discharge Planning

In the Operating Room



Intervention: Tranexamic Acid (TXA).

Impact: Results in reduced blood loss and reduced risk of blood transfusion during arthroplasty.

Discharge & Rehabilitation



Intervention:

Same-Day Discharge.

Impact: Explicitly recognized as an option for select patients.

Intervention:

Post-Operative Physical Therapy.

Impact: Clinicians may prescribe to aid in recovery.

The Evidence-Based Pathway for Glenohumeral OA

