Chapter 9. Joints and Ligaments

Part 1 | Joint Classification & Structural Components

1 Learning Objectives

By the end of this part you will be able to …

1. **Describe the three anatomical classes of joints**—fibrous, cartilaginous, and synovial—and list their sub-types with examples.
2. **Illustrate the micro-anatomy of a typical synovial joint,** naming every structural element and its biomechanical role.
3. **Differentiate ligaments, tendons, and bursae** in terms of histology, function, and common pathologies.
4. **Apply joint and soft-tissue knowledge to physiotherapy practice** (e.g., injury grading, mobilisation safety, post-operative protection).

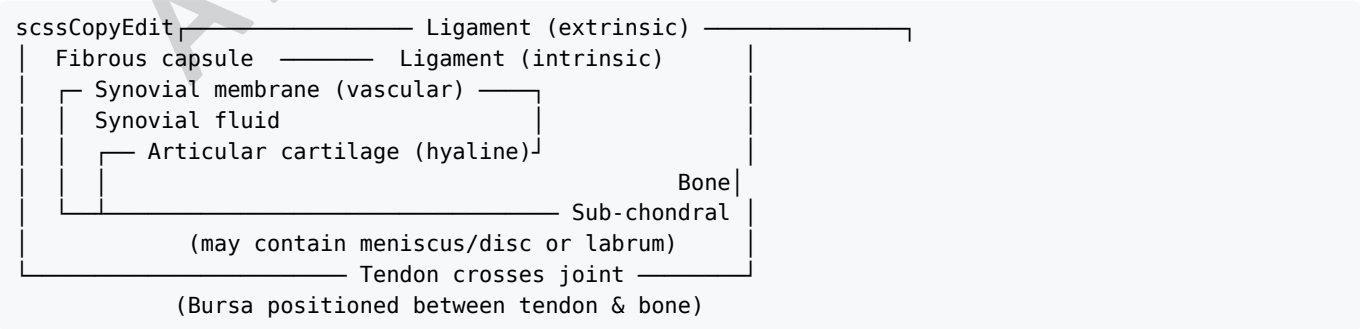
---

2 Joint Classification (Structural)

Class	Sub-types	Connecting Tissue	Mobility	Typical Examples	PT Relevance
Fibrous	• *Sutures* • *Syndesmoses* • *Gomphosis*	Dense irregular CT	Immovable (synarthrosis) or very slight	Coronal suture; tibio-fibular syndesmosis; tooth–socket	High ankle sprain = syndesmosis tear; cranial suture closure & paediatric helmeting
Cartilaginous	• *Primary (Synchondrosis)* • *Secondary (Symphysis)*	Hyaline; Hyaline + fibrocartilage	Slight (amphiarthrosis)	Epiphyseal plate; costochondral joints ★ Pubic symphysis; intervertebral discs	Costochondritis breathing pain; pubic symphysis separation in pregnancy
Synovial	• *Plane* • *Hinge* • *Pivot* • *Condyloid* • *Saddle* • *Ball-and-socket*	Hyaline cartilage + capsule + synovial membrane	Freely mobile (diarthrosis)	Zygapophyseal (plane); elbow (hinge); atlanto-axial (pivot); MCP (condyloid); thumb CMC (saddle); hip/shoulder (ball-socket)	Mobilisation grades, accessory glide direction, arthritis patterns

---

3 Anatomy of a Typical Synovial Joint



© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

PDF generated on 07 Mar 2026, 12:03 pm IST

Component	Composition	Function	PT Insight
Articular cartilage	Avascular hyaline; 65–80 % water, type II collagen, proteoglycans	Low-friction load dispersion	*OA*: cartilage thinning—prescribe non-impact exercise (cycling, pool)
Synovial membrane	Loose vascular CT with type B synoviocytes	Produces & reabsorbs synovial fluid	Inflammation → joint effusion; use effleurage & effusion grading
Synovial fluid	Ultrafiltrate of plasma + hyaluronic acid	Lubrication, nutrition to cartilage	Viscosupplementation injections; active ROM nourishes cartilage
Fibrous capsule	Dense irregular CT; richly innervated	Passive stability, proprioception	Mobilisation stretches capsule; adhesive capsulitis = capsular fibrosis
Ligaments	Regular dense CT, mainly type I collagen; poor vascularity	Restrain excessive motion, guide arthro-kinematics	Sprain grades I-III define rehab progression
Tendons	Regular dense CT connecting muscle → bone	Force transmission; dynamic stabiliser	Tendinopathy responds to eccentric loading
Bursae	Synovial-lined sacs	Reduce friction between moving layers	Pre-patellar bursitis—protective padding & activity modification
Meniscus / Labrum (where present)	Fibrocartilage	Deepen joint, absorb shock	Meniscectomy alters load → OA risk; labral tear rehab emphasises hip/core

4 Synovial Joint Sub-types & Axes of Movement

Sub-type	Articular Shape	Axes (DOF)	Primary Movements	Example(s)
Plane	Flat	Multi-axial (glide)	Sliding / gliding	Intercarpal, AC joint
Hinge	Cylindrical spool	1 (sagittal)	Flex / ext	Elbow (humeroulnar), IP joints
Pivot	Peg + ring	1 (vertical)	Rotation	C1-C2, proximal radioulnar
Condyloid	Ellipsoid	2	Flex/ext & abd/add (→ circumduction)	MCP, radiocarpal
Saddle	Concave-convex each way	2	Flex/ext, abd/add + opposition	1^{rt} CMC (thumb)
Ball-and-socket	Spherical head + cup	3	Flex/ext, abd/add, rotation	Shoulder, hip

Clinical cue: Mobilisation glide direction follows the **convex-concave rule**—vital for Maitland & Kaltenborn techniques.

5 Ligaments, Tendons & Bursae – Key Comparisons

Feature	Ligament	Tendon	Bursa
Function	Connect bone-to-bone; resist end-range	Connect muscle-to-bone; transmit force	Reduce friction between moving structures
Vascularity	Poor → slow healing	Poor–moderate	Varies (inflamed bursae hyperaemic)
Proprioceptors	Ruffini, Pacini, free nerve endings	Golgi tendon organs	Few; pain sensors
Pathology	Sprain, laxity, rupture	Tendinopathy, tear	Bursitis (infectious, traumatic)
Rehab Focus	Protected ROM → progressive loading	Eccentric & isometric loading	Offload, anti-inflammatory modalities

Grading a Sprain

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

PDF generated on 07 Mar 2026, 12:03 pm IST

AYURVEDBHARATI.ORG

- **Grade I:** Microscopic fibre tears; minimal laxity.
- **Grade II:** Partial tear; moderate laxity, end-point present.
- **Grade III:** Complete rupture; gross instability – may need surgical repair.

---

6 Structure–Function–Clinical Correlations

Scenario	Structural Basis	Physiotherapy Considerations
High-ankle sprain	Tear of anterior/posterior tibio-fibular **syndesmosis** (fibrous)	Longer NWB period; emphasise proximal control before return to sport
Intervertebral disc herniation	Secondary cartilaginous joint (symphysis) annulus fissure	McKenzie extension or traction; avoid early axial compression
ACL rupture	Intra-capsular but extra-synovial ligament	Graft selection (tendon), neuromuscular re-education, hamstring/quadriceps balance
Sub-acromial bursitis	Inflammation of deltoid–supraspinatus bursa	Scapular kinematics retraining, anti-impingement positioning
Frozen shoulder	Capsular adhesion & contracture	Maitland grades II–IV, pendulum exercises, heat therapy

---

7 Self-Check Quiz (answers directly below)

1. **Give one example each of a synchondrosis and a symphysis joint.**
2. **Why do Grade III ligament sprains often have less pain than Grade II?**
3. **Which synovial joint subtype allows opposition of the thumb and what unique shape enables this?**
4. **Name two biomechanical roles of synovial fluid.**
5. **Explain the difference between an intrinsic and an extrinsic ligament, providing one example of each.**

Answers

1. *Synchondrosis:* Epiphyseal growth plate or costochondral junction; *Symphysis:* Pubic symphysis or intervertebral disc.
2. Complete rupture severs pain-sensitive fibres and may reduce mechanoreceptor firing, whereas partial tears retain tension and nociception.
3. **Saddle joint** at the first carpometacarpal (trapezium ↔ 1^{rt} metacarpal) with reciprocal concave-convex surfaces.
4. Lubrication (reduces friction) **and** nutrition/waste removal for avascular articular cartilage.
5. *Intrinsic* (capsular) ligaments are thickenings of the joint capsule—e.g., **glenohumeral ligaments**; *Extrinsic* ligaments are separate from the capsule—e.g., **lateral collateral ligament of the knee**.

---

8 Suggested Practical / Lab Activities

Activity	Aim
Joint Capsule Dissection (cadaver or 3-D model)	Identify capsular vs extracapsular ligaments.
Sprain Simulation with elastic bands	Demonstrate ligament elongation and failure points.
Convex–Concave Rule Workshop	Practise glide directions on elbow & ankle models.
Bursae Palpation Session	Locate pre-patellar, olecranon, sub-acromial bursae; discuss differential diagnosis of swelling.

---

9 Key Take-Home Points

- **Fibrous, cartilaginous, and synovial joints** differ in tissue composition and allowable motion—understand these differences to predict injury patterns and healing times.

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

PDF generated on 07 Mar 2026, 12:03 pm IST

AYURVEDBHARATI.ORG

- **Synovial joints** are complex organs: cartilage, capsule, ligaments, tendons, bursae, and neurosensory endings work together for mobility and stability.
- **Ligaments guide and check motion; tendons create motion; bursae facilitate motion**—each demands a specific rehabilitation strategy.
- Mastery of joint structure underpins **manual therapy technique, post-operative protocols, and injury-prevention programming**.

Part 2 | Major Synovial Joints, Movements & Clinical Relevance

1 Learning Objectives

By the end of this part you will be able to …

1. **Describe articular surfaces, capsule, principal ligaments, intra-articular structures and nerve supply** of the shoulder, elbow, wrist, hip, knee and ankle joints.
2. **State the anatomic axes, degrees-of-freedom (DOF) and normal active ranges of motion (AROM)** for each joint.
3. **Explain key arthrokinematic rules** (convex–concave) and close-packed / loose-packed positions that guide manual therapy.
4. **Relate typical injury patterns and post-operative precautions** to the underlying ligamentous and capsular anatomy.

---

2 Upper-Limb Joints

Feature	Shoulder (Glenohumeral)	Elbow (Humeroulnar + Humeroradial)	Wrist (Radiocarpal)
Type	Ball-and-socket (triaxial)	Composite hinge (uniaxial)	Condyloid (biaxial)
Articular Surfaces	Glenoid fossa (scapula) < ⅓ size of humeral head	Trochlea ↔ trochlear notch; Capitulum ↔ radial head	Distal radius & TFCC ↔ scaphoid + lunate
Capsule / Labrum	Loose → ↑ mobility; **Glenoid labrum** deepens socket	Strong ant/lat; weak posterior	Capsule blends with RC ligaments, reinforced by **palmar radiocarpal**
Key Ligaments	Glenohumeral (sup/mid/inf), Coracohumeral, Coraco-acromial arch	**MCL (UCL)**, **LCL** (RCL & LUCL), Annular	Palmar & dorsal radiocarpal, UCL (ulnar styloid-triquetrum), RCL
DOF & AROM	3 DOF: Flex 0-180°, Abd 0-180°, ER 0-90°, IR 0-70°	1 DOF: Flex 0-150°, Ext 0°; Pro/Sup via proximal RU	Flex 0-80°, Ext 0-70°, Rad dev 0-20°, Uln dev 0-30°
Convex–Concave Rule	Convex humeral head rolls ↑ / glides ↓	Concave ulna/radius move on convex humerus → roll & glide same	Convex carpals move on concave radius → roll & glide opposite
Close-packed	Abd 90° + ER	Full ext + supination	Full ext + radial deviation
Capsular Pattern	ER > Abd > IR	Flex > Ext	Flex & Ext equally limited; slight dev loss
Common Injuries	Ant. dislocation (Bankart), RC tear, adhesive capsulitis	MCL sprain (throwers), radial-head #, olecranon bursitis	Scapho-lunate dissociation, Colles #, carpal-tunnel synovitis
PT Highlights	Posterior glide improves IR; avoid 90° + ER early post-dislocation	MWM for flex/ext, eccentric wrist-ext for tennis elbow	Grade-I dorsal glide for flex, proprio tape for mid-carpal control

---

3 Lower-Limb Joints

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

PDF generated on 07 Mar 2026, 12:03 pm IST

Feature	Hip (Coxofemoral)	Knee (Tibiofemoral + Patellofemoral)	Ankle (Talocrural)
Type	Ball-and-socket (triaxial)	Modified hinge (biaxial)	Hinge (uniaxial)
Articular Surfaces	Acetabulum + labrum ↔ femoral head	Femoral condyles ↔ tibial plateaus (*menisci*) ; Patella ↔ femoral trochlea	Trochlea of talus ↔ mortise (distal tibia & fibula)
Capsule & Extras	Strong dense capsule → *iliofemoral, pubofemoral, ischiofemoral* spiralling	Capsule thin ant/lat; **menisci** fibrocartilage; **patellar retinacula**	Capsule thin ant/post; **Deltoid lig** medially, **LCL** (ATFL, CFL, PTFL) laterally
DOF & AROM	Flex 0-120°, Ext 0-30°, Abd 0-45°, Add 0-30°, ER/IR 0-45°	Flex 0-135°, Ext 0-10°, ER 0-45°, IR 0-30°	DF 0-20°, PF 0-50°, small INV/EV at subtalar
Convex–Concave	Convex femoral head moves on concave acetabulum → roll-opposite glide	Convex femur moves on concave tibia in CKC; reverse in OKC	Convex talus moves in mortise (PF: ant roll – post glide)
Close-packed	Ext + IR + abd	Full ext + ER tibia; PF: full flex	Full DF
Capsular Pattern	Flex > IR > Abd	Flex > Ext > tibial rot	PF > DF
Common Injuries / Path	FAI, labral tear, THR, OA	ACL/PCL, MCL, meniscus tear, PF pain	Ankle sprain (ATFL), Achilles tendinopathy
PT Highlights	Posterior glide for flex; protect posterolat capsule post-THR	Early OKC quad activation post-ACL; meniscus rehab → closed-chain	Mulligan MWM for DF, proprio-balance board after sprain

4 Key Ligament Functions (Quick Digest)

Joint	Critical Ligament	Primary Restraint
Shoulder	**Inferior glenohumeral complex**	Ant band limits ER/abd > 90°
Elbow	**Anterior bundle MCL**	Valgus stress (throwing)
Wrist	**Palmar radiocarpal**	Limits wrist ext, guides carpal glide
Hip	**Iliofemoral (“Y” ligament of Bigelow)**	Limits hyper-extension & ER
Knee	**ACL**	Ant tibial translation & IR
Ankle	**ATFL**	Inversion & PF stress

5 Functional Synergies & Movement Chains

- **Shoulder elevation** = GH abduction + scapular upward rotation + clavicular elevation → reinforce rotator-cuff conditioning with low-trap & serratus anterior strengthening.
- **Closed-kinetic-chain knee extension** couples femoral roll-back with anterior glide of femoral condyles on menisci; loss of posterior horn meniscus impairs rollback → cue hip-hinge to spare knee shear.
- **Ankle–hip strategy** in balance: rapid talocrural DF/PF precedes larger hip torques; proprioceptive re-education must include foot intrinsic activation.

6 Self-Check Quiz (with Answers)

1. **Which ligament is most commonly injured in a typical inversion ankle sprain and during which ankle motion is it taut?**
   Answer: The **anterior talofibular ligament (ATFL)**; it is stretched in plantar-flexion and inversion.
2. **During open-chain knee extension, does the tibia glide anterior or posterior, and why?**
   Answer: It **glides anteriorly** on the femur because the concave tibial plateau moves on the convex femoral condyles—roll and glide occur in the **same** direction.
3. **Name two structures that deepen the hip and shoulder sockets respectively, and state their tissue type.**

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

AYURVEDBHARATI.ORG

Answer: Acetabular labrum (hip) and **glenoid labrum** (shoulder); both are **fibrocartilaginous rims.**

4. **What closed-packed position is used to test hip joint stability, and which capsular ligament chiefly tightens in this position?**
   Answer: Extension + internal rotation + abduction; the **iliofemoral ligament** becomes maximally taut.
5. **Why are scaphoid fractures at risk of avascular necrosis while distal radius fractures are not, despite proximity?**
   Answer: The scaphoid's retrograde blood supply enters distally; a waist fracture disrupts proximal perfusion leading to AVN, whereas the distal radius has robust metaphyseal vascularity.

---

7 Suggested Practical / Lab Activities

Lab Task	Competency Developed
Capsular Glide Workshop (using bone models & partners)	Match appropriate mobilisation direction to convex–concave rule for each joint above
Ligament Palpation & Stress Tests	Palpate ATFL, MCL (knee), UCL (elbow); perform valgus, Lachman, crank tests
Dynamic Ultrasound of shoulder & knee	Visualise humeral head glide during passive ER; meniscus movement in knee flexion
ROM & End-Feel Station	Goniometry and passive over-pressure to identify capsular vs. ligamentous end-feels

---

8 Key Take-Home Points

- **Joint mobility and stability are traded off via shape + capsulo-ligamentous constraints.** Understanding this balance directs exercise and protection phases.
- **Arthrokinematic rules (convex–concave)** dictate manual-therapy glide direction; misuse can overstress capsules.
- **Close-packed positions** maximise ligament tension—useful for stability tests but avoided in early post-op rehab.
- **Common orthopaedic injuries correlate with specific ligament orientation** (e.g., ATFL, ACL); tailor proprioceptive and strength programmes to restore these restraints.

Part 3 | Common Joint Pathologies – Mechanisms, Features & Physiotherapy Management

1 Learning Objectives

When you finish this part you should be able to …

1. **Define and classify the major categories of joint injury and disease** (sprain, dislocation, subluxation, meniscal/cartilage lesion, degenerative and inflammatory arthritis).
2. **Describe typical mechanisms, clinical signs, imaging findings and complications** for the most prevalent pathologies at the shoulder, elbow, wrist/hand, hip, knee and ankle.
3. **Outline evidence-based physiotherapy goals and interventions** across the acute, sub-acute and chronic phases of management.
4. **Recognise red-flag presentations** requiring urgent referral (e.g., septic arthritis, unreduced dislocation, neurovascular compromise).

---

2 Traumatic Joint Injuries

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

Pathology	Mechanism	Key Clinical Features	Imaging / Tests	PT Management Highlights
Sprain (Grade I–III)	Excessive stretch or load beyond elastic limit; most common at ATFL (ankle), MCL (knee), UCL (elbow)	Pain, swelling, laxity proportional to grade, ecchymosis	Stress tests; US or MRI for high-grade	POLICE (protect-optimal load-ice-compress-elevate) → proprioception → eccentric & perturbation training
Dislocation	High-energy trauma forcing joint beyond capsulo-ligament restraints; shoulder (ant.), patella (lat.), hip (post.)	Obvious deformity, loss of movement, guarding; possible nerve/vessel injury	X-ray before & after reduction; CT for fracture	Acute reduction → immobilise (1-3 wks) in safe zone → grading of ROM, scapular or core retraining to prevent recurrence
Subluxation	Transient "partial" dislocation with spontaneous relocation (e.g., patellar, GH in MDI)	Sense of giving way, apprehension, minimal imaging changes	Dynamic US, apprehension tests	Stabilisation exercises (rotator-cuff, VMO), taping/bracing, neuromuscular control drills
Meniscus / Labrum Tear	Twisting under load (knee) or repetitive overhead (shoulder/hip)	Locking, clicking, joint-line tenderness, positive McMurray/ O'Brien/FADDIR	MRI gold standard	Early ROM & quad/glute activation; if repaired – respect WB & flexion limits; if debrided – accelerated strength & proprioception
Chondral / Osteochondral Lesion	Shear/impaction; ankle talar dome, knee femoral condyle	Effusion, pain with WB, catching	MRI or arthroscopy	Off-load (crutches), controlled compressive loading (bike), progressive WB, sensorimotor training
Loose Body	Secondary to fracture or OCD	Sudden locking, episodic pain	X-ray ± MRI	ROM to prevent capsular contracture; surgical removal if symptomatic

3 Degenerative & Overuse Conditions

Disorder	Pathophysiology	Risk Factors	Hallmarks	PT Focus
Osteoarthritis (OA)	Progressive hyaline-cartilage loss, sub-chondral sclerosis & osteophyte formation	Age > 50, obesity (knee/hip), malalignment	Morning stiffness < 30 min, crepitus, bony enlargement	Patient education, weight loss, shock-absorbing footwear, quadriceps/hip abductor strengthening, manual traction, aquatic exercise
Rheumatoid Arthritis (RA)	Auto-immune synovitis → pannus erodes cartilage & bone	Female > male, 30-50 yrs	Symmetrical small-joint swelling, ulnar drift, systemic fatigue	Joint-protection training, isometric to dynamic during quiescence, splinting, energy-conservation techniques
Gouty Arthritis	Monosodium urate crystal deposition	Diet (purine), CKD, meds	Acute red-hot MTP 1; tophi	Protect & elevate, footwear advice, gradual ROM post-flare
Adhesive Capsulitis	Progressive capsular fibrosis (shoulder)	Diabetes, thyroid, prolonged immobilisation	Capsular pattern ER > ABD > IR; night pain	Maitland grades II–IV, joint distension, pendular & wall-crawl exercises
Impingement Syndromes	Structural or functional narrowing (sub-acromial, hip FAI)	Repetitive overhead/hip flexion sports	Painful arc, positive Neer/Hawkins; hip C sign	Scapular or lumbopelvic control, postural correction, posterior capsular stretch, gradual return to sport

4 Inflammatory / Infective Arthropathies

AYURVEDBHARATI.ORG

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

Condition	Key Points	Urgency
Septic Arthritis	Hematogenous/bacterial; single red-hot joint + systemic signs; knee most common	TRUE ORTHOPAEDIC EMERGENCY → Immediate referral
Ankylosing Spondylitis	HLA-B27 seronegative; sacroiliitis, ascending spinal fusion	Morning stiffness > 60 min; encourage extension & rotational exercises, high-dose swimming
Psoriatic Arthritis	DIP, spine or sacroiliac involvement with skin lesions	Protect joints during flare, integrate dermatology care

5 Joint Instability & Hypermobility

Category	Example	Features	PT Strategy
Traumatic Unidirectional Instability	Bankart lesion (shoulder)	Ant. displacement > 90° ABD/ER	Closed-chain RC & scapular exercises, eventual plyometrics
Atraumatic Multidirectional Instability (MDI)	Benign joint hypermobility syndrome	Beighton score ≥ 4/9, recurrent subluxations	Global kinetic-chain strengthening, proprioceptive work, education on activity modification

6 Fracture-Dislocation Combinations (High Vigilance)

Site	Injury	Complication	PT Implication
Elbow	Terrible triad (radial-head # + coronoid # + dislocation)	Stiffness, heterotopic ossification	Early protected motion with hinged brace, avoid aggressive stretch first 6 wks
Ankle	Bosworth fracture-dislocation	Post-reduction instability	Strict WB precautions, gradual DF/EVROM

7 Healing Timelines & Exercise Progression (Rule of Thumb)

Tissue	Haemostasis/Inflammation	Proliferation	Maturation/Remodelling	Clinical Milestone
Capsule/Ligament	0–72 h	3 wk	6–12 mo	Return to pivot sport ≥ 9 mo post-ACL graft
Articular Cartilage	Poor vascularity – limited	—	—	Emphasise load modulation; may never fully heal
Bone–Labrum Repair	1 wk	4–12 wk	4–6 mo	Hip labrum repair WB at 4–6 wk; sport ≥ 5 mo
Synovitis (RA flare)	Days	—	—	Active motion within pain range, avoid stretching in acute phase

8 Red-Flag Checklist for Immediate Referral

1. **Rapidly progressive swelling + fever** → Suspect septic arthritis.
2. **Unreduced dislocation > 6 h** → Risk of AVN (hip, shoulder).
3. **Neurovascular deficit** after joint trauma (foot drop, pulseless limb).
4. **Locking with inability to extend knee** fully after acute injury → Possible bucket-handle meniscus tear.

9 Self-Check Quiz (with Answers)

1. **Which shoulder pathology follows the “capsular pattern” limitation of ER > ABD > IR?**

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.

AYURVEDBHARATI.ORG

Answer: Adhesive capsulitis (frozen shoulder).

2. **Name the primary restraint against anterior tibial translation and give two clinical tests to assess it.**
   Answer: Anterior cruciate ligament (ACL); **Lachman test** and **anterior drawer test**.
3. **Why is uncontrolled diabetes a risk factor for rapid joint destruction in septic arthritis?**
   Answer: Hyperglycaemia impairs immune cell function and promotes bacterial growth, accelerating cartilage degradation.
4. **State one biomechanical reason for high recurrence of anterior shoulder dislocation in teenagers.**
   Answer: Shallow glenoid fossa combined with insufficient secondary stabilisers (rotator cuff not fully conditioned) leads to persistent labral insufficiency.
5. **Which meniscus is more commonly torn and why?**
   Answer: The **medial meniscus**—it is less mobile due to attachment to the deep MCL and joint capsule, so it is trapped during rotational stresses.

---

10 Key Take-Home Points

- **Joint pathologies arise from distinct mechanical, degenerative, inflammatory or infective processes**—each demands a tailored assessment and loading plan.
- **Accurate grading of sprains and dislocations sets rehabilitation timelines**; premature stress risks chronic instability.
- **Arthritis management integrates exercise, education, and load modification**—movement is medicine, but dosage is critical.
- **Physiotherapists play a sentinel role** in spotting red-flag signs and coordinating interdisciplinary care.

AYURVEDBHARATI.ORG

© Ayurvite Wellness Pvt Ltd. All rights reserved. This PDF is for personal use only. Unauthorized reproduction, distribution, or commercial use is strictly prohibited.