

Asian Pain Academy 6-month Fellowship in Ultrasound Guided Procedures in Pain Medicine Accredited by American Accreditation Association



**Includes
MSK Ultrasound**



FELLOWSHIP IN ULTRASOUND GUIDED PROCEDURES IN PAIN MEDICINE



AMERICAN ACCREDITATION
ASSOCIATION






6-MONTH ONLINE COURSE
WITH HANDS-ON WORKSHOP
(OPTIONAL)

LIVE CLASS &
DEMONSTRATION
EVERY TUESDAY

RECORDING AVAILABLE
IF YOU MISS LIVE
SESSION

REGISTER NOW

Brochure

-  **Duration: 6 Months**
-  **Mobile-Friendly Online Course**
-  **Live Classes & Demonstrations: 6:00 PM – 7:30 PM IST**
-  **Includes Ultrasound-Guided Procedures for CIPS Examination**

Highlights

Here are the updated highlights of the course:

- **Duration:** 6 Months
- **Format:** Mobile-Friendly Online Course
- **Timing:** IST 6:00 PM to 7:30 PM, Live Classes & Demonstrations
- **Start Date:** 22nd April 2025
- **Course Delivery:** Live and Interactive
- **Missed Class Option:** Recording available if you miss the live class.
- **CIPS Examination Preparation:** Dedicated classes covering required procedures.
- **Regular Evaluations:**
 - Weekly evaluations
 - Part evaluations every 2 months for revision
- **Ultrasound Simulation:** Interactive scroll shows for enhanced practical understanding.
- **Ultrasound Demonstration:** Live-like Picture-in-Picture Mode
- **Study Materials Provided**
- **Optional Hands-on Workshop:** 4 days in Kolkata following the course.
- **Expert Faculty:** Sessions conducted by renowned and experienced faculty members.

Course Fee

1. **Online Course Only** - International **\$ 600** Indian and SAARC Countries* **₹ 35,000/-**
2. **Online Course with Workshop** - International **\$ 900** Indian and SAARC Countries* **₹ 51,000/-** (Online course with 4-day Asian Pain Academy Workshop on MSK Ultrasound Interventions & Nerve Blocks in Pain Medicine at the End of the Course). All Prices are Inclusive of Applicable Taxes. *SAARC candidates must pay international payment gateway charges in addition to Indian prices.
3. For Registration, please visit www.asianpainacademy.com
4. Or WhatsApp us - +919432288997

Accreditation – Asian Pain Academy 6 Months Fellowship in Ultrasound Guided Procedures in Pain Medicine is accredited by the American Association Accreditation.



Basics of Ultrasound

Physics, Knobology and Tissue Echotexture, common pathologies

USG Basics:

- Physics of ultrasound imaging.
- Image from tissue reflection (impedance).
- Knobology adjusts image.
 - Gain: brightness.
 - Depth: imaging depth.
 - Focus: sharpens image.
 - TGC: even brightness at depth.
 - Frequency: detail vs. depth.
 - Doppler: blood flow.
 - Freeze/save/cine: image control.

Tissue Appearance:

- Bone
- Muscle
- Tendon/Ligament
- Nerve
- Fat
- Fluid
- Bursa

Common Issues:

- Tendinopathy
- Tear
- Bursitis
- Effusion
- Ligament/Muscle Injury
- Nerve Entrapment
- Cysts
- Foreign Body



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions For Anterior Shoulder

Common Pathologies

1. Biceps tendinitis (long head), including tenosynovitis or subluxation
2. Subcoracoid impingement
3. Adhesive capsulitis (frozen shoulder), especially anterior capsular tightness
4. GH (glenohumeral) joint arthritis
5. SLAP lesions (superior labrum anterior and posterior tears)
6. Calcific tendinitis (especially affecting supraspinatus or subscapularis)
7. Lateral pectoral nerve-related anterior shoulder pain
8. Anterior shoulder dislocation or subluxation

Ultrasound-Guided Interventions

1. GH joint injection (anterior approach) – for arthritis, capsulitis, or SLAP tear-related pain
2. Biceps tendon sheath injection – for tendinitis or instability
3. Barbotage – for managing calcific tendinitis of the rotator cuff
4. Tenotomy or tenodesis (USG-guided) – for chronic biceps tendon pain
5. Lateral pectoral nerve block – for persistent anterior shoulder pain
6. Suprascapular nerve block (anterior approach, if required)

Relevant Sono-anatomy

1. Biceps long head tendon in the bicipital groove
2. Subscapularis muscle and tendon
3. GH joint (anterior recess)
4. Rotator cuff interval
5. Coracoacromial arch
6. Anterior labrum
7. Pectoralis major and minor muscles
8. Lateral pectoral nerve and surrounding fascia



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions For Posterior Shoulder

Common Pathologies

1. Biceps tendinitis (long head), including tenosynovitis or subluxation
2. Subcoracoid impingement
3. Adhesive capsulitis (frozen shoulder), especially anterior capsular tightness
4. GH (glenohumeral) joint arthritis
5. SLAP lesions (superior labrum anterior and posterior tears)
6. Calcific tendinitis (especially affecting supraspinatus or subscapularis)
7. Lateral pectoral nerve-related anterior shoulder pain
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Ultrasound-Guided Interventions

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6. Anterior labrum
7. Pectoralis major and minor muscles
8. Lateral pectoral nerve and surrounding fascia



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions For Anterior & Medial Elbow

Common Pathologies

1. Biceps tendinitis (distal biceps insertion pain or inflammation)
2. Elbow joint arthritis presenting with anterior or medial pain
3. Golfer's elbow (medial epicondylitis) involving common flexor origin
4. Ulnar nerve entrapment in the **cubital tunnel**
5. Medial collateral ligament sprain or tear
6. Median nerve compression or irritation
7. Post-surgical scarring or nerve entrapment along the medial elbow

Ultrasound-Guided Interventions

1. Intra-articular elbow joint injection (anterior approach) – for arthritis or capsulitis
2. Medial epicondyle injection – for golfer's elbow
3. Biceps tendon sheath injection – for bicipital tendinopathy
4. Ulnar nerve block or hydro-dissection – for cubital tunnel syndrome
5. Median nerve hydro-dissection – for anterior nerve entrapment or scarring

Relevant Sono-anatomy

1. Distal biceps tendon inserting on the radial tuberosity
2. Brachialis muscle deep to the biceps
3. Median nerve and brachial artery crossing the anterior joint line
4. Anterior joint recess between humerus and forearm bones
5. Common flexor tendon at medial epicondyle
6. Medial collateral ligament complex
7. Ulnar nerve within the cubital tunnel (medial-posterior junction)



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions For Posterior and Lateral Elbow

Common Pathologies

1. Tennis elbow (lateral epicondylitis) involving common extensor origin
2. Olecranon bursitis – fluid accumulation and inflammation over the olecranon
3. Triceps tendinopathy or tears
4. Radial nerve entrapment (especially at the supinator or arcade of Frohse)
5. Lateral collateral ligament complex injury
6. Posterior elbow joint arthritis or impingement syndrome
7. Annular ligament strain or instability

Ultrasound-Guided Interventions

1. Lateral epicondyle injection – for tennis elbow
2. Olecranon bursa injection – for posterior elbow swelling and pain
3. Posterior intra-articular elbow injection – for arthritis or capsular tightness
4. Triceps tendon injection – for chronic tendinopathy
5. Radial nerve block – for entrapment neuropathy or lateral elbow pain

Relevant Sono-anatomy

1. Common extensor tendon at the lateral epicondyle
2. Lateral collateral ligament complex
3. Supinator muscle with radial nerve traversing it
4. Annular ligament stabilizing the radial head
5. Triceps tendon inserting on the olecranon
6. Olecranon process and posterior joint recess
7. Subcutaneous olecranon bursa



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions For Ventral Wrist

Common Pathologies

1. **Carpal Tunnel Syndrome** – Median nerve compression within the carpal tunnel
2. **Guyon's Canal Syndrome** – Ulnar nerve entrapment at the ulnar side of the wrist
3. **Flexor Tendinopathies** – Involving FCR, FCU, FDS, FDP, FPL tendons
4. **Ganglion Cyst (Palmar)** – Arising from volar radiocarpal joint or tendon sheath
5. **Wrist Arthritis** – Particularly affecting radiocarpal joint leading to anterior pain

Ultrasound-Guided Interventions

1. **Carpal Tunnel Injection** – For median nerve entrapment (hydro-dissection or steroid)
2. **FCR Tendon Sheath Injection** – For tendinopathy at the palmar radial side
3. **Flexor Tendon Sheath Injection** – For inflammatory or overuse conditions
4. **Guyon's Canal Injection** – For ulnar nerve neuropathy or entrapment
5. **Radiocarpal Joint Injection (Palmar approach)** – For arthritis or synovitis

Relevant Sonoanatomy

1. **Carpal Tunnel** – Contains median nerve, FDS, FDP, and FPL tendons
2. **Flexor Carpi Radialis (FCR)** – Palmar and radial to the tunnel
3. **Flexor Carpi Ulnaris (FCU)** – Along ulnar side; inserts on pisiform
4. **Palmaris Longus** – Overlies the flexor retinaculum (if present)
5. **Guyon's Canal** – Contains ulnar nerve and artery; lies ulnar to the carpal tunnel
6. **Radial and Ulnar Arteries** – Important landmarks during interventions



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions in Spine For Dorsal Wrist

Common Pathologies

1. **de Quervain's Tenosynovitis** – Inflammation of the first dorsal compartment (APL & EPB)
2. **TFCC Injuries** – Tears or degeneration causing ulnar-sided wrist pain
3. **Wrist Arthritis** – Involving radiocarpal and midcarpal joints
4. **Dorsal Ganglion Cysts** – Arising from the scapholunate or radiocarpal joints
5. **Extensor Tendinopathies** – In compartments II–VI (e.g., ECU, EDC)
6. **Ligamentous Sprains** – Scapholunate, lunotriquetral, or dorsal radioulnar ligaments

Ultrasound-Guided Interventions

1. **de Quervain's Injection** – Into the 1st dorsal compartment for tenosynovitis
2. **TFCC Injection** – For ulnar-sided pain and DRUJ instability
3. **Radiocarpal and Midcarpal Joint Injections** – For inflammatory or degenerative arthritis
4. **Tendon Sheath Injections (e.g., ECU, EDC)** – For dorsal wrist tendinopathies
5. **Ganglion Aspiration or Injection** – For symptomatic cysts

Relevant Sono-anatomy

1. **Lister's Tubercle** – Bony landmark separating 2nd and 3rd extensor compartments
2. **Dorsal Compartments I–VI** – Housing specific extensor tendons
3. **Radiocarpal Joint** – Between radius and proximal carpal row
4. **Midcarpal Joint** – Between proximal and distal carpal rows
5. **TFCC Region** – Includes articular disc, meniscus homolog, dorsal and volar radioulnar ligaments
6. **Dorsal Radioulnar Ligament and DRUJ** – Important in wrist stability



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions in Spine For the hand

Common Pathologies:

- Trigger finger (stenosing tenosynovitis).
- Arthritis (MCP, PIP, DIP joints).
- Tendon sheath inflammation (tenosynovitis) of flexor and extensor tendons.
- Nerve compression syndromes (carpal tunnel syndrome).
- Resulting in pain, restricted movement, and functional impairment.

Ultrasound-Guided Interventions:

- MCP, PIP, and DIP joint injections for arthritis and pain.
- Trigger finger injections for A1 pulley inflammation.
- Flexor and extensor tendon sheath injections for tenosynovitis.
- Carpal tunnel injections for median nerve compression.

Relevant Sono-anatomy:

- Phalangeal bones.
- A1 pulley system (trigger finger).
- Thenar and hypothenar muscles (hand function, US evaluation).
- Carpal tunnel (flexor tendons, median nerve).



Ultrasound Guided Procedures for Upper Limb

Ultrasound Guided Interventions in Upper Limb For CIPS Examination

Peripheral Nerve Blocks

- Suprascapular nerve block
- Ulnar nerve block at the cubital canal

Musculoskeletal Joint Injections

- Acromioclavicular (AC) joint injection
- Glenohumeral joint injection (any approach)

Musculoskeletal Soft Tissue Injections

- Biceps tendon (peri-tendinous) injection
- Subdeltoid bursa injection
- Medial or lateral epicondylitis tendon sheath injection/fenestration



Ultrasound Guided Procedures for Upper Limb

Upper Limb Part Evaluation

Part Evaluation – Upper Limb

This is an online, MCQ-based assessment available through the Asian Pain Academy app, designed to evaluate the candidate's knowledge of ultrasound-guided pain interventions in the upper limb. The test covers key areas such as shoulder, elbow, wrist, and hand, along with associated peripheral nerve blocks (e.g., suprascapular, axillary, radial, ulnar, and median nerves). It focuses on sonoanatomy, clinical indications, procedural techniques, and complication management, ensuring readiness for hands-on practice and certification exams.



Ultrasound Guided Procedures for the Lower Limb

Anterior Hip Pathologies and Ultrasound Guided Interventions

Common Pathologies Causing for the Anterior Hip Pain

- **Hip Osteoarthritis** – degeneration of the joint cartilage leading to pain and stiffness.
- **Iliopsoas Tendinitis** – inflammation of the iliopsoas tendon, often causing groin pain.
- **Adductor Tendinitis** – inflammation at the adductor tendon insertion.
- **Snapping Hip Syndrome** – caused by iliopsoas tendon snapping over bony structures.
- **Neuropathic Pain** involving:
 - **Femoral nerve**
 - **Genitofemoral nerve**
 - **Lateral femoral cutaneous nerve**
 - **Obturator nerve**

Ultrasound-Guided Interventions for the Anterior Hip Pain

- **Intra-articular Hip Joint Injections**
 - For osteoarthritis and adhesive capsulitis
- **Iliopsoas Tendon Sheath Injection**
 - For iliopsoas tendinitis or internal snapping hip syndrome
- **Femoral Nerve Block**
 - For diagnostic and therapeutic relief in neuropathic pain
- **PENG (Pericapsular Nerve Group) Block**
 - Regional anaesthesia technique for anterior hip pain
- **LFCN and Obturator Nerve Block**
 - For meralgia paresthetica and obturator neuralgia, respectively

Relevant Sono-anatomy

- Hip joint capsule
- Iliopsoas tendon and iliacus muscle
- Femoral nerve and vessels
- Genitofemoral nerve
- Lateral femoral cutaneous nerve
- Obturator nerve



Ultrasound Guided Procedures for the Lower Limb

Posterior Hip Pathologies and Ultrasound Guided Interventions

Common Pathologies Causing for the Anterior Hip Pain

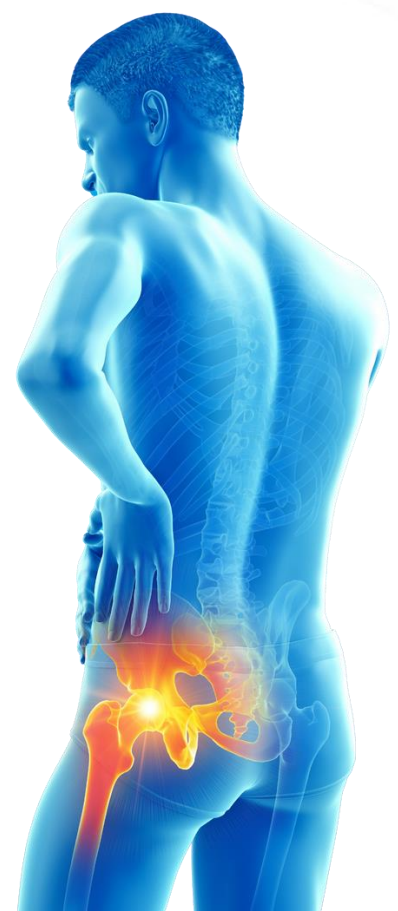
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Ultrasound-Guided Interventions for the Anterior Hip Pain

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Relevant Sono-anatomy

- Hip joint capsule
- Iliopsoas tendon and iliacus muscle
- Femoral nerve and vessels
- Genitofemoral nerve
- Lateral femoral cutaneous nerve
- Obturator nerve



Ultrasound Guided Procedures for the Lower Limb

Anterior & Medial Knee Pathologies and Ultrasound Guided Interventions

Common Pathologies Causing Pain in the Anterior & Medial Knee

- **Osteoarthritis** – degeneration of joint cartilage, leading to pain and stiffness
- **Patellar Tendinitis** – inflammation of the patellar tendon (jumper's knee)
- **Infrapatellar Fat Pad Inflammation** (Hoffa's disease)
- **Prepatellar Bursitis** – inflammation over the kneecap
- **Pes Anserine Bursitis** – inflammation at the medial knee, below the joint line
- **Medial Collateral Ligament (MCL) Injury**
- **Medial Meniscal Tear**
- **Adductor Canal-Related Pain** (entrapment or neuralgia involving the saphenous nerve)

Ultrasound-Guided Interventions for Pain in the Anterior & Medial Knee

- **Intra-articular Knee Joint Injection**
 - For osteoarthritis and synovitis
- **Suprapatellar and Infrapatellar Bursa Injections**
 - For bursitis or inflammation
- **Prepatellar Bursa Injection**
 - For anterior knee swelling
- **Pes Anserinus Bursa Injection**
 - For pain in the medial tibial area
- **MCL Injection or Fenestration**
 - For ligamentous strain or sprain
- **Adductor Canal Block**
 - For saphenous nerve pain or perioperative analgesia

Relevant Sono- anatomy

- **Quadriceps Tendon** (rectus femoris, vastus medialis, lateralis, intermedius)
- **Suprapatellar Recess and Bursa**
- **Pre-femoral and Infrapatellar Fat Pads**
- **Patellar Tendon**
- **Anterior Cruciate Ligament (ACL)** – partially visualized
- **Medial Joint Line and Medial Meniscus**
- **Medial Collateral Ligament (Superficial and Deep layers)**
- **Genicular Artery (Medial side)**
- **Pes Anserine Bursa**
- **Adductor Canal**



Ultrasound Guided Procedures for the Lower Limb

Posterior & Lateral Knee Pathologies and Ultrasound Guided Interventions

Common Pathologies Causing Pain in Posterior & Lateral Knee

- **Baker's Cyst** (popliteal cyst) – fluid-filled swelling in the posterior knee
- **Posterior Knee Pain** – often due to sciatic or **common peroneal nerve** irritation
- **Lateral Collateral Ligament (LCL) Injury**
- **Lateral Meniscal Tear**
- **Iliotibial Band (ITB) Friction Syndrome**
- **Biceps Femoris Tendinopathy**

Ultrasound-Guided Interventions for Pain in Posterior & Lateral Knee

- **Baker's Cyst Aspiration or Injection** For fluid relief and decompression
- **Posterior Knee Injections**
 - For PCL inflammation or synovitis
- **Sciatic or Common Peroneal Nerve Block**
 - For posterior or lateral neuropathic pain
- **LCL Injection**
 - For lateral ligament injury
- **ITB Peritendon Injection**
 - For lateral knee pain or ITB friction syndrome

Relevant Sono-anatomy

- **Gastrocnemius Muscles (Medial and Lateral Heads)**
- **Semimembranosus and Semitendinosus Tendons**
- **Posterior Cruciate Ligament (PCL) – limited visualization**
- **Posterior Joint Space**
- **Popliteal Fossa Structures:**
 - Popliteal artery and vein
 - Tibial and common peroneal nerves
 - Sciatic nerve (above bifurcation)
- **Lateral Knee Structures:**
 - Lateral joint line and lateral meniscus
 - Lateral Collateral Ligament (LCL)
 - Iliotibial Band (ITB)
 - Biceps Femoris tendon



Ultrasound Guided Procedures for the Lower Limb

Anterior & Medial Ankle Pathologies and Ultrasound Guided Interventions

Common Pathologies

- **Anterior Ankle Synovitis or Arthritis**
- **Tarsal Tunnel Syndrome**
- **Deltoid Ligament Injury**
- **Spring Ligament Injury**
- **Medial Tendinopathy**

Ultrasound-Guided Interventions

- **Intra-articular Ankle Joint Injection** - For arthritis or synovitis
- **Tarsal Tunnel Injection** - For tibial nerve entrapment
- **Deltoid Ligament Injection** - For post-sprain pain or inflammation
- **Spring Ligament Injection** - For flat foot-related pain
- **Tendinous Injections (TP, FHL, FDL)**
 - For tendinopathies of medial tendons

Relevant Sono-anatomy

- **Anterior Ankle Structures:**
 - Tibialis anterior
 - Extensor hallucis longus (EHL)
 - Extensor digitorum longus (EDL)
 - Deep peroneal nerve
 - Anterior tibial artery
 - Anterior joint recess
 - Great saphenous vein
 - Saphenous nerve
 - Extensor retinacula (superior and inferior)
- **Medial Ankle Structures:**
 - Tibialis posterior (TP)
 - Flexor hallucis longus (FHL)
 - Flexor digitorum longus (FDL)
 - Tibial nerve
 - Posterior tibial artery
 - Flexor retinaculum
 - Deltoid ligament (superficial and deep parts)



Ultrasound Guided Procedures for the Lower Limb

Posterior & Lateral Ankle Pathologies and Ultrasound Guided Interventions

Common Pathologies

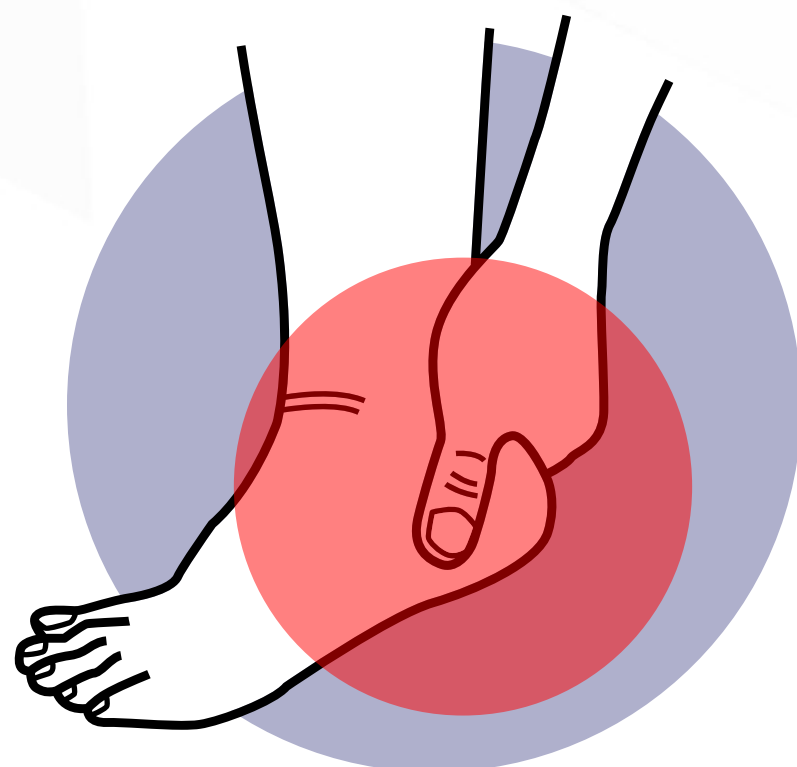
- **Achilles Tendinopathy**
 - May be insertional or non-insertional
- **Retrocalcaneal Bursitis**
 - Common with shoe-related irritation or Achilles issues
- **Subtalar Arthritis**
 - Seen in inflammatory or post-traumatic cases
- **Lateral Ligament Sprains**
 - Involving:
 - Anterior talofibular ligament (ATFL)
 - Posterior talofibular ligament (PTFL)
 - Calcaneofibular ligament (CFL)
- **Peroneal Tendinopathy**
 - Often associated with overuse or ankle instability

Ultrasound-Guided Interventions

- **Subtalar Joint Injection**
 - For arthritis or persistent inflammation
- **Retrocalcaneal Bursa Injection**
 - For bursitis-related heel pain
- **ATFL / PTFL / CFL Ligament Injections**
 - For sprains and chronic instability
- **Peroneal Tendon Sheath Injection**
 - For lateral ankle pain
- **Achilles Tendon Injection (if appropriate)**
 - For chronic tendinopathy (avoid injecting into the tendon substance)

Relevant Sonoanatomy

- **Posterior Ankle Structures:**
 - Achilles tendon
 - Retrocalcaneal bursa
 - Subtalar joint
 - Soleus muscle
 - Gastrocnemius muscle
 - Sural nerve
- **Lateral Ankle Structures:**
 - Peroneus longus and brevis
 - Superficial peroneal nerve
 - Calcaneofibular ligament (CFL)
 - Anterior inferior tibiofibular ligament
 - Anterior talofibular ligament (ATFL)
 - Posterior talofibular ligament (PTFL)



Ultrasound Guided Procedures for the Lower Limb

Foot Pathologies and Ultrasound Guided Interventions



Common Pathologies:

- **Plantar Fasciitis:** Inflammation or degeneration of the plantar fascia, typically causing heel pain.
- **Achilles Tendinopathy:** Chronic overuse or degenerative changes affecting the Achilles tendon.
- **Retrocalcaneal Bursitis:** Inflammation of the bursa situated between the Achilles tendon and the calcaneus.
- **Subtalar Arthritis:** Degenerative or inflammatory changes occurring within the subtalar joint.
- **Deltoid Ligament Sprain:** Injury to the medial ligament complex of the ankle/foot, leading to instability and pain.

Ultrasound-Guided Interventions:

- **Plantar Fascia Injection:** Used for plantar fasciitis to alleviate inflammation and pain.
- **Achilles Tendon Sheath Injection:** Employed for peritendinous inflammation in Achilles tendinopathy (crucially, injection into the tendon fibers should be avoided).
- **Retrocalcaneal Bursa Injection:** Targeted for bursitis and associated pain in the posterior heel.
- **Subtalar Joint Injection:** Administered for arthritis or chronic inflammation causing hindfoot pain.
- **Deltoid Ligament Injection:** Used for inflammation related to deltoid ligament sprains and localized medial ankle/foot pain.

Relevant Sono-anatomy:

- **Plantar Fascia:** Originates from the medial calcaneal tuberosity and extends across the sole of the foot.
- **Achilles Tendon:** The largest tendon in the body, it inserts into the posterior aspect of the calcaneus.
- **Retrocalcaneal Bursa:** Located between the Achilles tendon and the calcaneus.
- **Subtalar Joint:** The articulation point between the talus and the calcaneus.
- **Deltoid Ligament:** A complex of medial ligaments that provides stability to the ankle and hindfoot.

Ultrasound Guided Procedures for the Lower Limb

Ultrasound Guided Interventions in Lower Limb For CIPS Examination

Peripheral Nerve Blocks

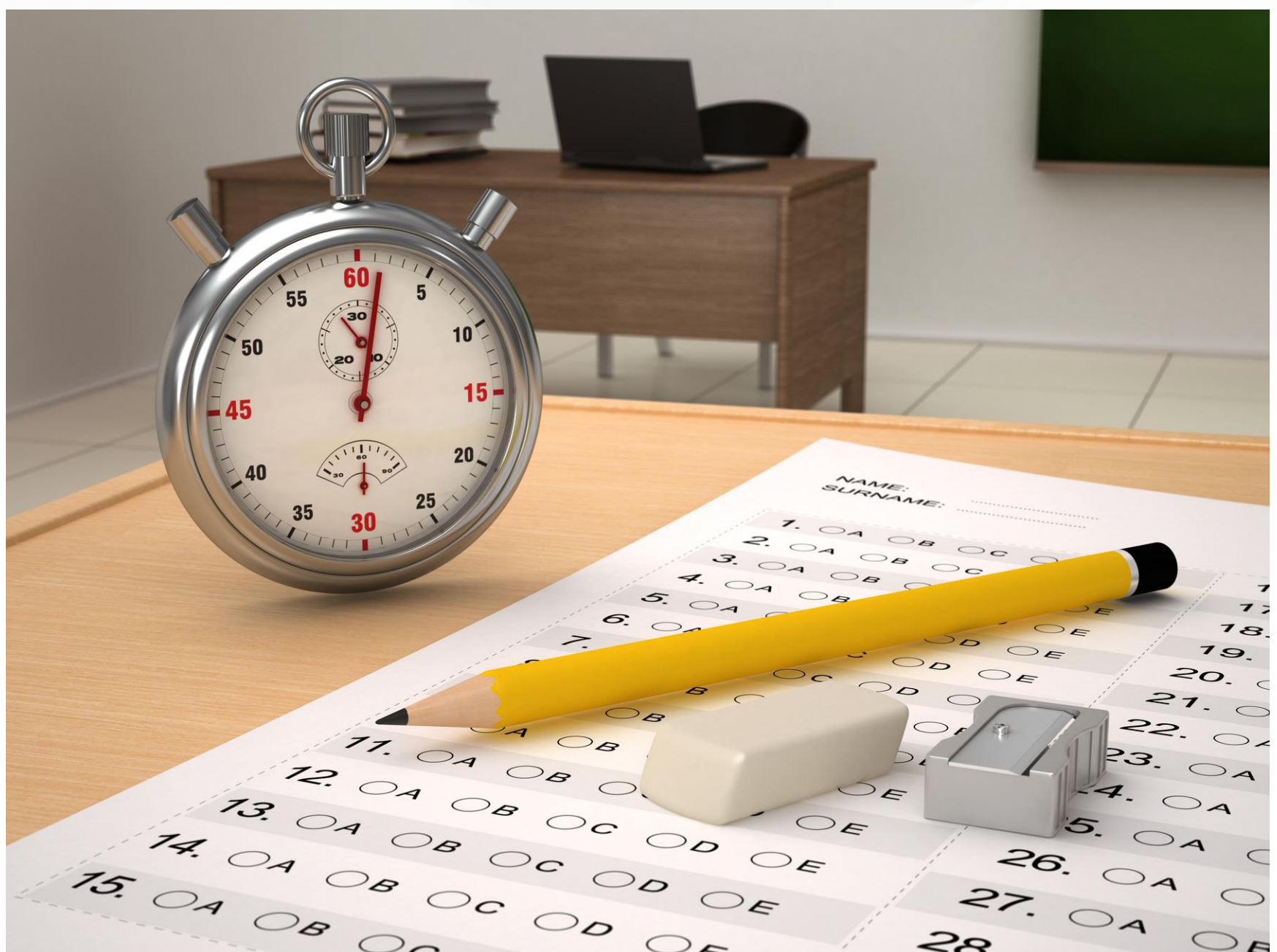
- Pudendal nerve block
- Lateral femoral cutaneous nerve block

Musculoskeletal Joint Injections

- Hip joint injection
- Knee joint injection
- Tibiotalar (ankle) joint injection

Musculoskeletal Soft Tissue Injections

- Piriformis muscle injection
- Trochanteric bursa injection (including subgluteal region: gluteus maximus, medius, and minimus)



Ultrasound Guided Procedures for the Lower Limb

Part Evaluation Lower Limb

Part Evaluation – Lower Limbs

This is an online, MCQ-based assessment conducted through the Asian Pain Academy app, designed to test the candidate's theoretical understanding of lower limb ultrasound-guided pain interventions. The evaluation covers key topics including sonoanatomy, indications, techniques, and complication management for procedures involving the hip, knee, ankle, and related peripheral nerves such as the sciatic, saphenous, tibial, and femoral nerves. The goal is to ensure knowledge readiness for practical application and certification exams.



Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions for the Head Region

Common Pathologies:

- Chronic headaches (tension-type, occipital).
- Facial pain syndromes (idiopathic, post-traumatic neuropathic).
- Trigeminal neuralgia (V1, V2, or V3 branches).
- Temporomandibular joint (TMJ) dysfunction (pain, clicking, restricted movement).
- Neuropathic pain (supraorbital, infraorbital, mandibular, maxillary, mental nerves).

Ultrasound-Guided Interventions:

- **Supraorbital nerve block:** For V1 trigeminal neuralgia or frontal headaches.
- **Infraorbital nerve block:** For V2-related facial pain or maxillary neuralgia.
- **Mandibular nerve block:** For deep facial or mandibular pain.
- **Maxillary nerve block:** For midfacial pain (via infrazygomatic or pterygopalatine approach).
- **Mental nerve block:** For localized pain in the chin or lower lip.
- **TMJ injection:** For pain, inflammation, or dysfunction of the temporomandibular joint.

Relevant Sono-anatomy:

- **Supraorbital foramen or notch:** Landmark for supraorbital nerve targeting.
- **Infraorbital foramen:** Visualized for accurate infraorbital nerve blocks.
- **Mental foramen:** Identifies the exit of the mental nerve.
- **Mandibular nerve pathway:** Traced in the infratemporal region near the coronoid notch.
- **Maxillary nerve course:** Followed through the pterygopalatine fossa or infrazygomatic region.
- **TMJ structures:** Mandibular condyle, articular disc, and capsule (essential for TMJ injections).



Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions for the Cervical Spine (Anterior)

Common Pathologies

1. Cervical radiculopathy due to nerve root compression
2. Sympathetic-mediated pain involving the stellate ganglion
3. Myofascial neck pain with anterior muscular involvement

Ultrasound-Guided Interventions

1. Cervical selective nerve root block – for radicular symptoms
2. Cervical plexus block – for regional anesthesia or chronic pain
3. Stellate ganglion block – for CRPS, vascular insufficiency, or sympathetic pain syndromes

Relevant Sono-anatomy

1. Cervical nerve roots emerging from the intervertebral foramina
2. Superficial and deep cervical plexus near the posterior border of the sternocleidomastoid
3. Stellate ganglion located near the C7 transverse process and longus colli muscle
4. Anterior neck muscles including longus colli and scalene muscles
5. Brachial plexus in the supraclavicular and interscalene regions
6. Vascular structures such as carotid artery and internal jugular vein, which must be avoided during anterior approaches



Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions for the Cervical Spine (Posterior)

Common Pathologies

1. Cervical facet syndrome due to degenerative changes or trauma
2. Occipital neuralgia involving the greater or lesser occipital nerves
3. Myofascial neck pain with trigger points in posterior cervical muscles

Ultrasound-Guided Interventions

1. Cervical medial branch block – for facet joint-related pain
2. Greater occipital nerve block – for occipital neuralgia and cervicogenic headache
3. Lesser occipital nerve block – for upper cervical and posterior auricular pain
4. Trigger point injections – for myofascial pain relief

Relevant Sono-anatomy

1. Cervical facet joints located between superior and inferior articular processes
2. Cervical medial branches over the junction of the transverse process and articular pillar
3. Greater and lesser occipital nerves – along the posterior scalp and upper neck
4. Greater auricular nerve – overlying the sternocleidomastoid
5. Posterior neck muscles including trapezius, semispinalis capitis, splenius capitis, and levator scapulae



Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions for the Thoracic Spine

Common Pathologies:

- **Thoracic Facet Joint Syndrome:** Degenerative or traumatic changes causing axial thoracic pain.
- **Intercostal Neuralgia:** Nerve irritation/injury (trauma, surgery, infection) causing radiating pain along ribs.
- **Myofascial Pain Syndrome:** Trigger points/muscle dysfunction in serratus anterior or erector spinae.
- **Neuropathic Pain:** Often from post-surgical scars, rib fractures, or thoracic spine injuries.

Ultrasound-Guided Interventions:

- **Paravertebral Nerve Block:** For facet joint pain and segmental thoracic analgesia.
- **Intercostal Nerve Block:** For intercostal neuralgia, post-thoracotomy, or rib fracture pain.
- **Serratus Anterior Plane (SAP) Block:** For lateral chest wall pain (trauma, myofascial).
- **Erector Spinae Plane (ESP) Block:** For extensive analgesia in thoracic neuropathic and post-operative pain.
- **Trigger Point Injection:** For localized myofascial pain in thoracic paraspinal or scapular muscles.

Relevant Sono-anatomy:

- **Thoracic Spine and Transverse Processes:** Landmark for ESP and paravertebral blocks.
- **Paravertebral Space:** Contains spinal nerves, dorsal rami, and sympathetic chain.
- **Intercostal Nerves and Muscles:** Located between internal and innermost intercostal muscles.
- **Intercostal Artery and Vein:** Superior to the nerve (avoid puncture).
- **Serratus Anterior Muscle:** Over ribs, beneath latissimus dorsi (SAP block target).
- **Erector Spinae Muscle:** Thick paraspinal muscle (ESP block injection site).
- **Dorsal Scapular and Spinal Accessory Nerves:** May contribute to myofascial pain.



Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions for the Lumbar Spine

Common Pathologies

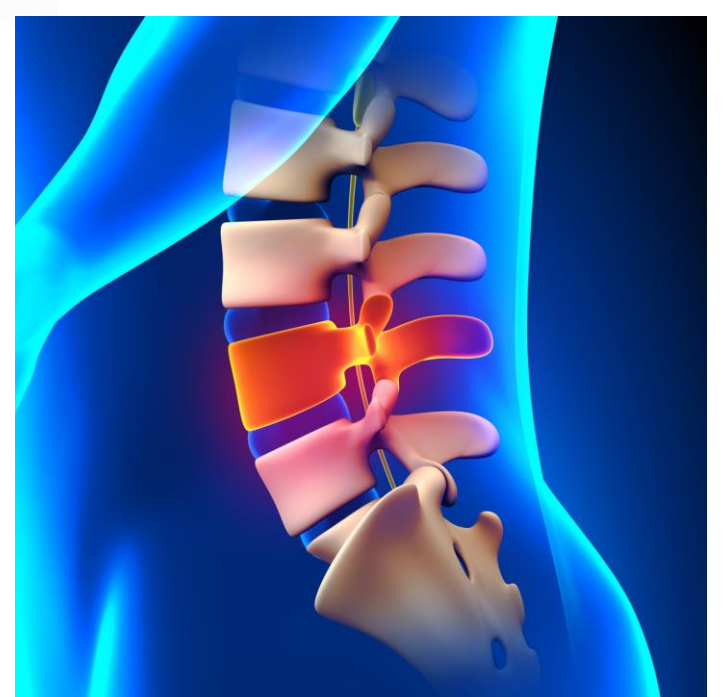
1. Lumbar facet joint syndrome causing axial low back pain
2. Lower back pain due to muscle or ligament strain
3. Myofascial pain involving the quadratus lumborum or erector spinae muscles
4. Radicular pain from nerve root compression
5. Discogenic pain due to intervertebral disc pathology

Ultrasound-Guided Interventions

1. Lumbar facet joint injection – for joint inflammation or arthropathy
2. Medial branch block – for diagnostic and therapeutic management of facet-related pain
3. Quadratus lumborum (QL) block – for lateral or posterior myofascial pain relief
4. Erector spinae plane (ESP) block – for diffuse lower back pain

Relevant Sono-anatomy

1. Lumbar facet joints and transverse processes
2. Quadratus lumborum muscle – located lateral to the transverse processes
3. Erector spinae muscle – lies dorsally over the lamina and transverse processes
4. Dorsal rami – course over the junction of the lamina and transverse process
5. Lumbar plexus – located within the psoas major muscle, best approached deep and with caution



Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions for the Sacrum–Coccyx Region

Common Pathologies

1. Sacroiliac (SI) joint dysfunction presenting with deep buttock or posterior pelvic pain
2. Piriformis syndrome causing sciatic nerve entrapment and radiating pain
3. Neuropathic pain related to sacral nerve roots or post-surgical changes
4. Chronic coccydynia following trauma or degenerative changes
5. Caudal epidural fibrosis or adhesions contributing to persistent radicular pain

Ultrasound-Guided Interventions

1. Sacroiliac (SI) joint injection – for inflammatory or mechanical SI joint dysfunction
2. Piriformis muscle injection – to relieve sciatic nerve compression
3. Caudal epidural injection – for chronic low back or radicular pain
4. Coccygeal nerve block – for coccydynia
5. Ultrasound-assisted spinal or epidural injection – alternative to fluoroscopy for patients with spinal access challenges

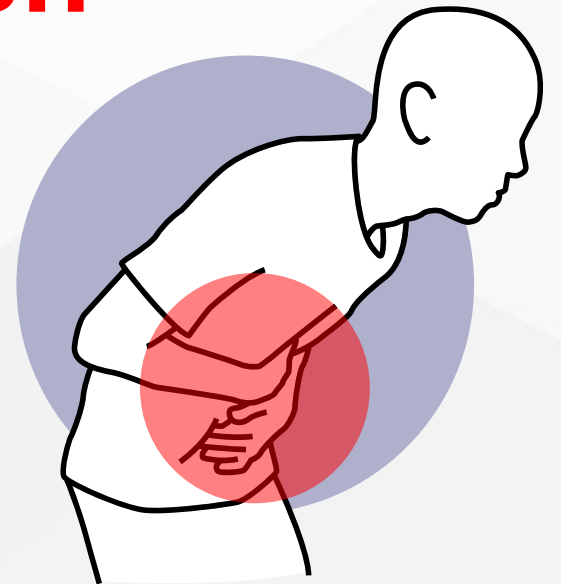
Relevant Sono-anatomy

1. Sacroiliac joint – located between the sacrum and ilium, with limited mobility
2. Piriformis muscle – originates from the anterior sacrum and inserts on the greater trochanter
3. Sciatic nerve – visualized emerging below the piriformis
4. Sacral hiatus – entry point for caudal epidural injections
5. Coccyx and coccygeal nerves – small terminal nerves involved in coccydynia
6. Posterior sacral foramina – exit points of sacral dorsal rami



Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions in the thorax and abdomen



Common Pathologies:

- Abdominal myofascial pain (anterior/lateral wall).
- Chronic pelvic pain (unclear/mixed origin).
- Ilioinguinal neuralgia (groin/lower abdomen).
- Iliohypogastric neuralgia (above inguinal region, post-op).
- Genitofemoral nerve entrapment (genital/upper thigh pain).
- Visceral abdominal pain (pancreatic cancer, chronic pancreatitis).
- Visceral pelvic pain (endometriosis, malignancy, interstitial cystitis).

Ultrasound-Guided Interventions:

- **Rectus Sheath Block:** Anterior abdominal wall or post-incisional pain.
- **Transversus Abdominis Plane (TAP) Block:** Myofascial or post-operative lower abdominal pain.
- **Quadratus Lumborum (QL) Block:** Extended coverage for deep abdominal and pelvic pain.
- **Ilioinguinal Nerve Block:** Groin neuralgia or post-hernia surgery.
- **Iliohypogastric Nerve Block:** Post-operative or localized lower abdominal pain.
- **Genitofemoral Nerve Block:** Upper anterior thigh or genital neuralgia.
- **Coeliac Plexus Block:** Upper abdominal visceral pain (pancreas, stomach, liver).
- **Superior Hypogastric Plexus Block:** Pelvic visceral pain (uterus, bladder, prostate).

Relevant Sono-anatomy:

- **Rectus Sheath:** Encloses rectus abdominis (superficial abdominal wall blocks).
- **Transversus Abdominis Plane:** Between internal oblique and transversus abdominis (TAP block).
- **Quadratus Lumborum Muscle:** Posterolateral to abdominal cavity (QL block).
- **Ilioinguinal and Iliohypogastric Nerves:** L1 origin, near ASIS between muscle layers.
- **Genitofemoral Nerve:** Anterior to psoas, splits into genital/femoral branches.
- **Coeliac Plexus:** Anterior to aorta (T12-L1).
- **Superior Hypogastric Plexus:** Anterior to L5 and sacral promontory.

Ultrasound Guided Procedures for Head, Spine and Trunk

Ultrasound Guided Interventions in Spine For CIPS Examination

Spine Procedures

- Cervical medial branch block
- Cervical selective nerve root block
- Thoracic facet joint block
- Lumbar medial branch/facet joint block
- Caudal epidural injection

Peripheral Nerve Blocks

- Ilioinguinal / Iliohypogastric nerve block



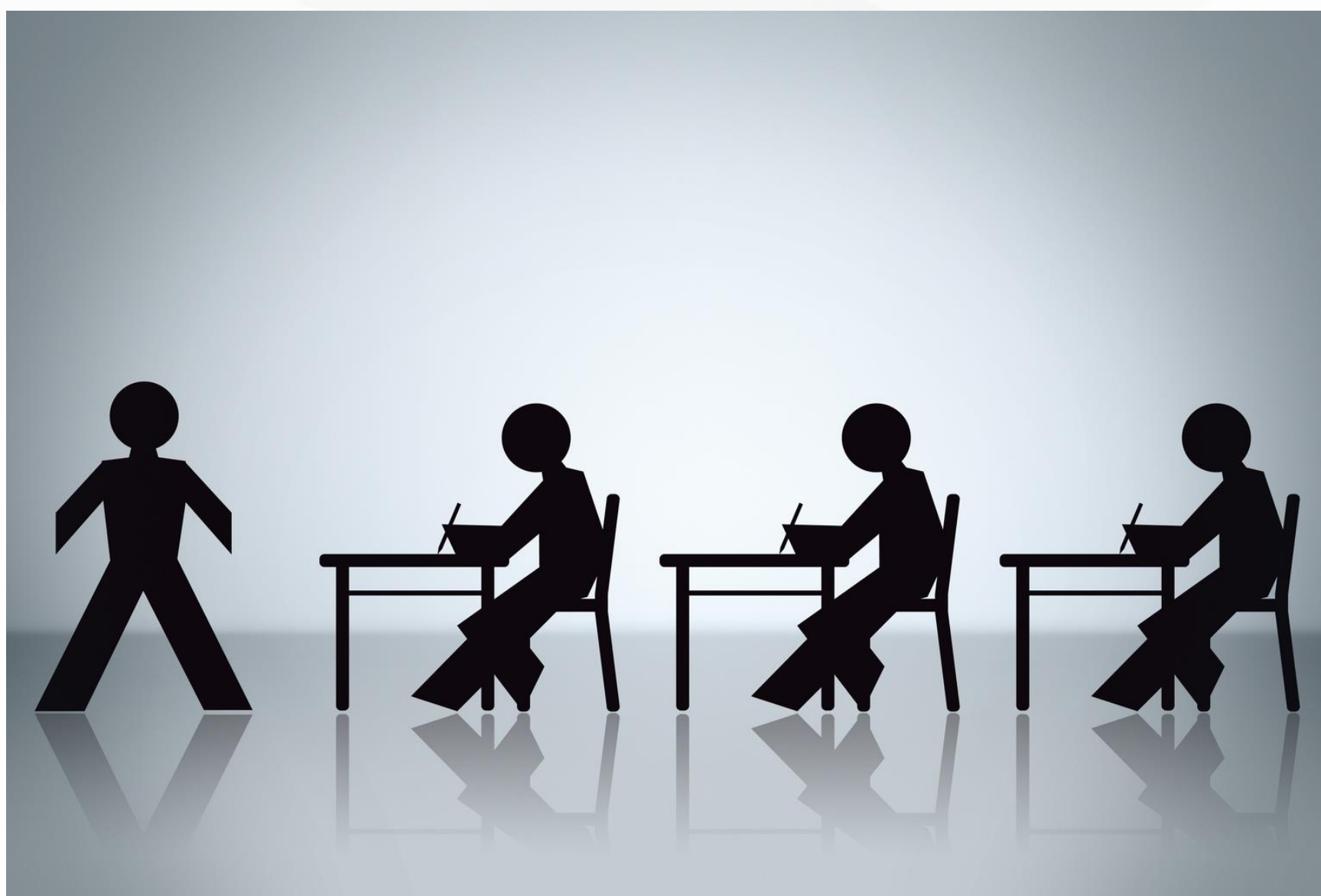
Ultrasound Guided Procedures In Pain Medicine

Final Evaluation Asian Pain Academy Fellowship in Ultrasound Guided Procedures in Pain Medicine

Final Evaluation – Asian Pain Academy Fellowship in Ultrasound-Guided Procedures in Pain Medicine

The final evaluation marks the completion of the 6-month fellowship program and is conducted online through the Asian Pain Academy application. This comprehensive assessment includes multiple-choice questions (MCQs) designed to test the participant's knowledge of sonoanatomy, procedural techniques, clinical applications, and complication management across all regions—head, spine, trunk, upper and lower limbs.

 The final evaluation is usually scheduled on a Saturday or Sunday at the end of the course for convenience.



Ultrasound Guided Procedures for Head, Spine and Trunk

Part Evaluation - Head, Spine and Trunk

Part Evaluation – Head, Spine and Trunk -

This is an online, MCQ-based assessment conducted via the Asian Pain Academy app, focusing on ultrasound-guided interventions related to the head, cervical and thoracic spine, and trunk regions. The evaluation tests theoretical knowledge of sonoanatomy, nerve blocks, and interventional pain procedures, including occipital nerve blocks, cervical medial branch blocks, thoracic paravertebral and intercostal blocks, and abdominal wall and pelvic nerve blocks. It is designed to prepare candidates for clinical applications and board certification pathways.



6-month Fellowship in Ultrasound Guided Procedures in Pain Medicine

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