



6-Month MSK Ultrasound Mentorship Program Outline

This 6-month program is designed to provide clinicians who already utilise MSK ultrasound within their practice, with advanced diagnostic MSK ultrasound competency, and introduce the advanced sonoanatomy, technique and medical reasoning to perform more specialised ultrasound guided injections and procedures which are not routinely taught on MSK ultrasound post graduate programs (PgCert and PgDip) and specialist medical training.

Who this program is designed for:

- GPs with specialist interest in MSK Medicine.
- Trainee Radiologists
- Advanced Practice Physiotherapists
- Sports and Exercise Medicine Consultants.
- Orthopaedic Surgeons
- MSK sonographers.

This program is also designed to elevate the procedural skills and clinical reasoning of MSK specialists and competent clinicians/sonographers over a **6-month period**. Throughout the ongoing seminars and case discussions, students will be encouraged to apply taught + self directed learning material into complex musculoskeletal and Orthopaedic scenarios.

Our mentors come from a range of clinical backgrounds, which include MSK Radiology, private practice, and community MSK and Orthopaedic services. Students will have access to a wide range of clinical expertise, both for advanced sonoanatomy and diagnostic skills, throughout a range of procedural options for pathologies.

Summary of Expectations, Learning Strategies, and Outcomes

Expectations:

Participants are expected to actively engage in all components: attend the full-day practical course, participate in **fortnightly** seminars/lectures, contribute to case discussions in the group forum, and dedicate time to **independent study** (reviewing digital content and textbooks). Commitment to self-reflection and professional growth is paramount.

Learning Strategies:

A **blended learning** approach is used, combining intensive **hands-on training** (1-day courses) with structured **didactic sessions** (seminars/lectures), **collaborative learning** (group forum, ad-hoc case discussions), and **self-directed learning** (digital content and textbooks).

Outcomes:

By the end of the program, participants will have:

1. **Enhanced Procedural Competence:** Confidence and proficiency in performing a wide range of ultrasound-guided MSK procedures across the upper and lower limbs.
2. **Deepened Clinical Knowledge:** Advanced understanding of sonoanatomy, procedural indications, contraindications, complications, and appropriate aseptic techniques.
3. **Improved Clinical Reasoning:** Ability to integrate imaging, clinical presentation, and procedural steps for optimal patient management.
4. **Expanded Professional Network:** Established communication and mentorship relationships with senior coordinators and peers for ongoing support.

Detailed Program Description

PROGRAM DURATION AND STRUCTURE

- **Duration:** 6 Months
- **Phase 1 (Month 1):** Intensive 1-day **Upper Limb Procedural Course**.
- **Phase 2 (Months 1-3):** **Fortnightly** seminars, lectures, and case discussions (6 total).
- **Phase 3 (Month 4):** Intensive 1-day **Lower Limb Procedural Course**.
- **Phase 4 (Months 4-6):** **Fortnightly** seminars, lectures, and case discussions (6 total).
- **Ongoing: Continuous Communication Forum and Independent Study.**

TEACHING AND LEARNING STRATEGIES

The program employs a variety of strategies to ensure deep, lasting skill acquisition and clinical integration.

1. Practical Skills Classes (1-Day Procedural Course):

- **Focus: Upper Limb and Lower Limb** MSK ultrasound-guided procedures.
- **Method:** Intensive, small-group, **hands-on** training utilising live models and/or phantoms for maximum practice time. Focus on proper transducer manipulation, needle visualisation, and achieving accurate injectate placement.
- **Prerequisite Knowledge:** Participants must review core material on sonoanatomy, basic safety, aseptic procedural techniques, expected adverse drug reactions, and procedural complications **before** the course.
- **Lower Limb Integration:** While the practical day focuses on the upper limb, subsequent seminars and independent study will cover lower limb procedural anatomy and techniques.

2. Teaching Lecture/Seminar Series (Alternate Fortnights; 0-6 months):

- **Format:** 90-120 minute online sessions combining formal lectures, seminars and interactive case discussions.
- **Goal:** To bridge the gap between technical skill (practical course) and complex clinical application.
- **Content Focus:** Advanced sonoanatomy, evidence-based indications for common and complex injections, optimising procedural approaches, pharmacology of injectates, and management of complications. Specific sessions will focus on the **Upper and Lower Limb** procedural techniques outlined below.

3. Independent Study:

- **Core Material:** Participants are provided with digital access to core **textbooks**, high-quality video demonstrations of all procedures, and curated literature reviews.

- **Self-Paced Learning:** Participants are expected to dedicate time to reviewing this content, preparing for seminar case discussions, and **self-assessing** their technical understanding. This forms the essential foundation for applied learning.

4. Communication Forum (Alternate Fortnights; 0-6 months):

- **Platform:** During the pilot, a combination of an encrypted whatsapp group and microsoft teams will be utilised to maintain communication, allow fast response to clinical / MSK ultrasound case queries, and disseminate details of planned seminars and lectures.
- **Purpose: Ready access** to senior course coordinators for rapid queries, technical advice, and **ad-hoc case discussion**.
- **Benefit:** Allows participants to share real-world cases (anonymised) for feedback on imaging, diagnosis, and proposed procedural management, fostering a continuous learning environment beyond the scheduled sessions.

Detailed Seminar/Case Discussions Overview.

MENTORSHIP PROGRAMME - STAGE 1 (UPPER LIMB)

Event	Date	Mentor	Content
Seminar 1		Dr Rob Henderson	
Seminar 2		Mr Rishi Sharma	
Case Discussion		Mr Paul Watson	
Seminar 4		Mr Robert Henderson	

MENTORSHIP PROGRAMME - STAGE 2 (LOWER LIMB)

Event	Date	Mentor	Content
Seminar 1		Dr Rob Henderson	
Seminar 2		Mr Rishi Sharma	
Case Discussion		Mr Paul Watson	
Seminar 4		Mr Robert Henderson	

PROCEDURAL COURSE OUTLINE AND EXPECTED LEARNING

The 1-day procedural course will focus intensively on the Upper Limb, with lower limb topics covered in the didactic/seminar series and independent study. Procedures marked **[expected]** are considered core skills for all participants and will receive particular emphasis in the practical course and/or seminar series.

PROCEDURAL COURSE OUTLINE: UPPER LIMB

Area	Procedural Techniques	Expected Knowledge/Skills Acquired
1. Shoulder	Shoulder joint [expected] , Subacromial/subdeltoid bursitis [expected] , Shoulder hydrodilatation, Long head biceps tendon sheath, AC joint injection, Rotator cuff calcinosis barbotage	Mastery of common injection portals; Understanding of adhesive capsulitis diagnosis and hydrodilatation technique.
2. Elbow/ Forearm	Elbow joint [expected] , CEO tendinopathy [expected] , CFO tendinopathy [expected] , Distal biceps tendinopathy/radiobicipital bursitis, Distal triceps tendinopathy, Ulnar nerve perineural injection.	Accurate needle placement for common tendinopathies and joint/bursal injections; Safely navigating neurovascular structures (e.g., ulnar nerve).
3. Wrist	Carpal tunnel [expected] , De Quervain tenosynovitis [expected] , Ulnocarpal joint injection, Radiocarpal joint injection, Distal radioulnar joint injection, Proximal intersection injection, Distal intersection injection.	Core skills in common entrapment neuropathies and tenosynovitis; Differentiating subtle joint vs. tendon pathology.
4. Hand	Thumb CMC joint injection [expected] , Flexor tendinopathy [expected] , Ganglion fenestration, Trigger finger, Finger IP joint injection.	Precision techniques for small joints and pulley systems (trigger finger); Management strategies for ganglion cysts.

PROCEDURAL COURSE OUTLINE: LOWER LIMB

Area	Procedural Techniques	Expected Knowledge/Skills Acquired
5. Hip	Hip joint [expected] , trochanteric bursitis [expected] , proximal ITB friction, Iliopsoas bursitis, hamstring tendinopathy (ischioogluteal bursitis), piriformis syndrome, pubic symphysis, adductor tendinopathy.	- Safe anterior and lateral hip joint access; - Differentiating the source of deep gluteal pain (eg. piriformis vs. hamstring) - Techniques for tendinopathy.
6. Knee	Knee joint [expected] , Baker cyst [expected] , Distal ITB friction, Patella tendinopathy, Infrapatellar bursitis, Prepatellar bursitis.	Techniques for joint aspiration and injection; Management of complex fluid collections (Baker's cyst rupture/aspiration); Techniques for anterior knee pain.
7. Ankle	Tibiotalar (ankle) joint [expected] , Retrocalcaneal bursitis [expected] , Posteromedial impingement, Anterolateral/subfibular impingement, Peroneal tendinopathy, Subtalar joint, Achilles tendon (peritendinous steroid and hydrodissection).	Safe access to major and accessory joints (Subtalar); Techniques for posterior foot/Achilles procedures; Differentiating impingement syndromes.
8. Foot	Great toe MTP joint injection [expected] , Ganglion fenestration, Plantar fascia, Intermetatarsal (Morton) neuroma, Tibialis posterior tendinopathy.	Small joint injection proficiency; Techniques for common forefoot pain syndromes (neuroma); Plan for plantar fasciopathy.

