

Expert Forum

The Second Targeted Ultrasound Initiative National Meeting



Making Education Easy

15 October 2016

Agenda items

- > **Introduction to TUI**
– Assoc Prof Simon Stebbings
- > **Enhanced patient communication with ultrasound**
– Assoc Prof Fred Joshua
- > **NZ training in ultrasound for rheumatologists: panel discussion** IMAGINE Steering Committee and Participants
- > **Introductory ultrasound workshop**
- > **Closing remarks**
– Assoc Prof Simon Stebbings

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Welcome to this review of the Second Targeted Ultrasound Initiative (TUI) National Meeting, held in Wellington on Saturday 15th October 2016.

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This meeting explored TUI resources in New Zealand, and the need for future support. Clinical evidence was discussed regarding the use of musculoskeletal ultrasound (US) and how it can improve patients' understanding of their disease and adherence to medication. The IMAGINE Steering Committee and invited participants discussed ultrasound training in New Zealand, challenges facing the rheumatology community around the use of ultrasound, and suggestions for moving forward with training. A workshop provided the opportunity to practice US under expert guidance of experienced practitioners.



Prof Stebbings' Introduction to TUI 2016

Introduction to TUI – Assoc Prof Simon Stebbings (TUI Ambassador)

TUI is an international organisation set up by Paul Emery and his research group in Leeds, England, drawing upon the expertise of long-established experts in the field of musculoskeletal US. The predominant aim is to raise awareness of US in managing inflammatory arthritis, both in terms of diagnosis and in monitoring disease, as well as in withdrawing treatment. The TUI website contains useful resources and a framework for training.

An online survey conducted in 2014 in New Zealand indicated that ~90% of rheumatologists believed that US is a useful imaging modality in point-of-care rheumatology clinical practice. Common barriers to the use of US in rheumatology included inadequate machines, insufficient examination time, and insufficient training.

The TUI programme is an educational initiative led by an independent Steering Committee of experts who develop all educational and scientific content. The programme is sponsored by AbbVie Inc. which has no control or influence over the content.

Training needs identified

In 2015, New Zealand rheumatologists highlighted the need to upskill their US expertise. Subsequently, AbbVie has generously provided funding support for 4 rheumatologists nationwide to participate in IMAGINE, an intensive training programme run by Assoc Prof Joshua in Australia. At the conclusion of the IMAGINE course, solutions will be needed to continue US training in New Zealand. Support for basic training will be easier, with a small but growing number of rheumatologists with sufficient experience in US. Local courses might be possible?

Theoretical training comprises a EULAR online course, and others provided by TUI, and Radiopeadia. Courses are also available: APLAR, TUI, EULAR, BSR, and ACR.

TUI has stipulated practical training requirements:

- Trainee should perform a minimum of 30 normal and 70 pathological scans
- (6 joint regions: 15 wrist/hand, 15 ankle/foot, 10 shoulder, 10 elbow, 10 hip, 10 knee)
- Examinations should encompass the full range of conditions listed above.
- The logbook should be kept by the trainee, listing the number and type of examinations and reporting and documenting the ultrasound findings.

The UK has a non-mandatory programme of US training, which depends on the individual to upskill to the level where they feel competent. The uptake of US is supported by the BSR. About a third of rheumatologists in the UK currently perform US. Support for US in New Zealand will be difficult to sustain. The TUI meetings will continue, providing practical training from New Zealand enthusiasts, and online resources.

Enhanced patient communication with ultrasound – Assoc Prof Fred Joshua

Patient education is one area where US is considered to be helpful for patients.

- > In 2001, Assoc Prof Joshua and colleagues published a paper about the role of US in patient understanding and compliance in early RA.¹ This study of 10 patients showed that patient visualisation of US significantly increases understanding in the early RA population. These improvements were particularly evident in those without X-ray joint damage at baseline.
- > Subsequently, a pilot study evaluated the use of musculoskeletal US in patients with RA to improve patient attitudes and adherence to medication.² Eighteen patients with active disease were scanned and shown US images of their joints in real time. The patients filled out attitudinal and medication adherence questionnaires at 3 time points; prior to US, 3 days post-US and 10 days post-US. Showing patients with RA 'real-time' US images of clinically inflamed joints resulted in a more favourable cost-benefit analysis, that is, increased patient belief in the necessity of medication versus concern about taking medication.
- > This led to a third project, a qualitative study that aimed to report the findings of the D^Efining rheumatoid arthritis progression using Doppler Ultrasound in Clinical practice (DEDUCE) Medical Practice Activity, which was developed



to facilitate the utilisation of Doppler ultrasound (DUS) by Australian rheumatologists in the treatment of patients with RA. Twenty-one rheumatologists were enrolled and completed a pre-activity survey on their attitudes towards US and how they were incorporating US/barriers to use of US in clinical practice. Each rheumatologist enrolled 4–6 RA patients, each of whom completed a pre-activity survey on their attitudes towards US and about their disease. They underwent a DUS scan, which was either performed by a rheumatologist (n=10) or a radiologist who was upskilled by an information pack. Many of the rheumatologists did not use US themselves, so they did not know how to interpret the images. The study researchers sent the rheumatologists an information pack plus images to help explain US to the patient.

- Following the activity, 95% of the rheumatologists believed DUS was a useful assessment tool for patients with RA. The majority found the DUS results useful and more than half thought the DUS assessment fit well into their consultation.
- A majority of rheumatologists indicated they would use DUS imaging in patients with LDA and remission, and for disease activity assessment to inform in therapeutic decision-making.
- All patients who responded found the visual aids useful and most felt that discussing DUS results improved understanding of their disease and would help with medication adherence.

These findings show that incorporation of DUS imaging into routine clinical practice is feasible, encourages rheumatologists to utilise and expand their clinical application of DUS imaging in patients with RA, and improves patient understanding of their disease and adherence to medication.

A UK study has evaluated the impact of US on adherence to DMARDs in patients with RA.³ Twenty patients (10 high and 10 low adherers, as determined by responses to the Medication Adherence Report Scale) participated in in-depth individual semi-structured interviews. Four main themes related to adherence were identified:

- 1) symptom severity;
- 2) illness perception;
- 3) perceived benefits and risks of DMARDs;
- 4) the quality and quantity of information about RA and DMARDs.

Patients' suggestions about strategies to optimise adherence to DMARDs were captured and they fell within the following themes:

- 1) musculoskeletal US to explain the disease process and to provide objective feedback about the extent to which their disease activity is being effectively controlled;
- 2) better explanations of the consequences of poorly controlled RA
- 3) a good relationship with the health professional.

The researchers concluded that use of musculoskeletal US to image the inflamed joint may help to improve patient adherence to DMARDs.

Another UK study has examined the clinical usefulness and patient satisfaction with a musculoskeletal US clinic.⁴ This 6-month pilot service was run in a Rheumatology Unit, involving 43 patients. Referral agreed indications were:

- US assisting in early/subclinical diagnosis (35%)
- Decision-making with patient treatment (44%)
- Monitoring of disease activity/treatment response (39%)
- US-guided injection (11%).

Referrers considered the US clinic to be useful for the clinical management of patients with inflammatory arthritis; patient satisfaction scores were high.

In summary, there is some evidence of benefit for patient education by the use of US. However, the question remains as to whether US is better than standard education.

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NZ training in ultrasound for rheumatologists: panel discussion *IMAGINE Steering Committee and Participants*

Assoc Prof Simon Stebbings served in the role of Chair.

IMAGINE participants and TUI meeting attendees provided input.

This discussion focussed on ways in which ultrasound training can be promoted in New Zealand, the various challenges that rheumatologists and rheumatology trainees face with ultrasound, and what actions the rheumatology community can take to ensure that it moves forward in ultrasound training, especially as this tool is becoming an integral part of rheumatology clinical practice.

- The TUI survey revealed strong interest in clinic-based ultrasound in NZ. However, most rheumatologists feel that they do not have the training or experience to use ultrasound and do not know how to access comprehensive training.
- Participants applauded the learning they had received from the *IMAGINE* course of ultrasound training and one-to-one supervision from highly experienced operators. Unfortunately, the generous funding provided by AbbVie over the last 12 months for the practical work and online support will not continue.
- How will rheumatologists in NZ access ultrasound training from now on? After completing the *IMAGINE* training, one of the participants is planning to retain his once-fortnightly 4-hour ultrasound clinic time and would be happy to share this time with any rheumatologists wanting to gain more ultrasound experience.
- The intention of the *IMAGINE* programme was to train a small core of rheumatologists, who would then pass on their training to more rheumatologists. The 4 NZ-based rheumatologists who have entered the *IMAGINE* programme will result in a cohort of rheumatologists who have achieved a supervised training to a high level. In addition, 4 or 5 rheumatologists have been trained in NZ or overseas to a high standard and have experience, and a few practising rheumatologists have gained some experience.
- Consensus supported the establishment of an 'Ultrasound Special Interest Group' as part of the NZRA. NZ could run at least one practical session per year. Australia will also run at least one session. Established training criteria supplied by the European Federation of Societies for Ultrasound in Medicine and Biology (EFSUMB) could serve as a basis for basic training in NZ. Rheumatologists could keep log books and have supervised assessment with 'advanced' practitioners leading to some form of endorsement.
- EULAR online course could be an 'entry into training' hurdle.
- Ultrasound machines are in short supply.
- Agreement to consider in future a committee to establish the Special Interest Group and its members.

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Hands-on ultrasound demonstrations

– Demonstrators: Dr Tim Sole, Paul Healy, Rajiv Gupta

Participants appreciated the opportunity to practise US on patients, under expert guidance of experienced practitioners.

TUI Conclusion – Assoc Prof Simon Stebbings

1. There is an international movement towards bringing ultrasound into daily practice in rheumatology
2. There is a desire amongst rheumatologists in New Zealand to 'catch up' with this trend and a perception that New Zealand is lagging in training and uptake of clinic-based ultrasound
3. Many rheumatologists do not know how to access training and need support to gain expertise
4. A core of rheumatologists has reached a sufficient level of expertise to help guide and develop national training
5. There is a feeling that a special interest group within the NZRA may be able to assist in the development of training requirements and promote/develop training opportunities.