Outcomes of a longer initial assessment appointment time incorporating point of care ultrasound (POCUS) in an Integrated clinical assessment and treatment service (ICATS) setting: Service Development pilot

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Introduction

Musculoskeletal ultrasound has gained increasingly popularity due to its ability to provide rapid diagnosis of common MSK conditions, comparable clinical utility compared to other diagnostic modalities, high patient satisfaction, cost effectiveness, and the ability to perform guided procedures (Hosseinian et al., 2022; Liang et al., 2020; ElMeligie et al., 2023).

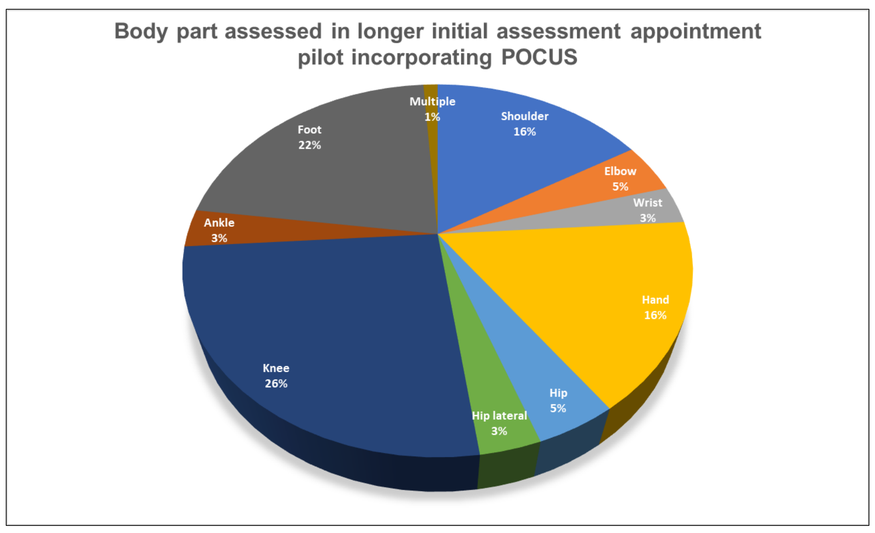
The aims of this pilot trial were to establish the clinical and cost effectiveness of incorporating POCUS into all peripheral MSK appointments within an integrated clinical assessment and treatment service (ICATS). Appointment times were increased from 30 to 45 minutes to provide time to incorporate POCUS. Data were collected over a period of 16 weeks and outcomes included further investigations, injection at appointment, impact on follow up numbers and patient satisfaction.

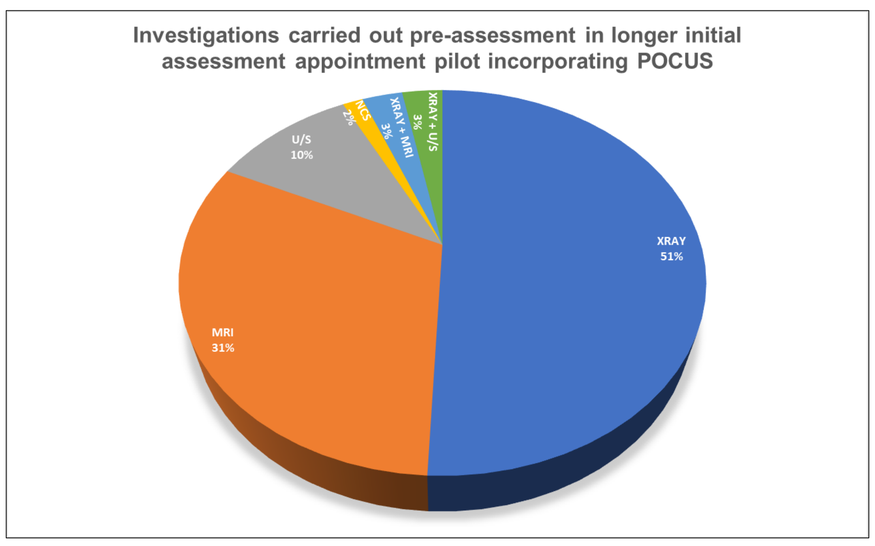
Pilot patients

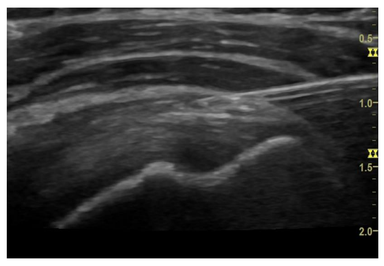
92 patients seen in total and 85 of those received POCUS at first appointment.

7 patients not scanned on clinician discretion e.g. Multiple joint pains, knee referral that was actually spinal complaint.

Pie charts of body part assessed and pre-assessment investigations







Investigations

Table 1: Percentage of patients sent for MRI / any investigation (including MRI, x-ray, ultrasound, nerve conduction studies) following initial assessment

Appointment format	MRI	Any investigation
45-minute new assessment incorporating POCUS	13%	22%
Standard 30-minute new assessment	19%	37%

Table 2: Percentage of patients requiring follow up

Appointment format	Required follow-up
45-minute new assessment incorporating POCUS	21%
Standard 30-minute new assessment	46%

Table 3: Injections carried out at initial assessment following POCUS

Landmark injection	14
Ultrasound guided injection	6
Percentage of patients who had follow up for injection administration with standard 30-minute new assessment	11%

Patient satisfaction / testimonials

High patient satisfaction was recorded using an adapted POCUS feedback questionnaire (adapted from original work by Andersen et al., 2021).

‘Very well explanation of my injury. Joined up service, scan + steroid injection. No waiting time. Opportunity for additional appointment if necessary’.

‘I felt my heath issue was taken seriously and properly investigated. The ultrasound helped diagnose the cause, this may have been difficult to identify without the ultrasound as my symptoms were not an exact fit with the cause’.

Conclusion

Better access to POCUS in a longer initial assessment provides an effective method for reducing referral for diagnostic investigations, reducing follow ups within the service, allowing injections at the first appointment (including ultrasound guided injections), and creates high patient satisfaction within an integrated clinical assessment and treatment service (ICATS).

References

Hosseinian, S.H.S., Aminzadeh, B., Rezaeian, A., Jarahi, L., Naeini, A.K. and Jangjui, P., 2022. Diagnostic value of ultrasound in ankle sprain. *The Journal of foot and ankle surgery*, *61*(2), pp.305-309.; Liang, W., Wu, H., Dong, F., Tian, H. and Xu, J., 2020. Diagnostic performance of ultrasound for rotator cuff tears: a systematic review and meta-analysis. *Medical Ultrasonography*, *22*(2), pp.197-202; ElMeligie, M.M., Allam, N.M., Yehia, R.M., and Ashour, A.A., 2023. Systematic review and meta-analysis on the effectiveness of ultrasound-guided versus landmark corticosteroid injection in the treatment of shoulder pain: an update. *The Journal of Ultrasound* 26, pp. 593–604; Andersen, C.A., Brodersen, J., Rudbæk, T.R., and Jensen, M.B., 2021. Patients’ experiences of the use of point-of-care ultrasound in general practice – a cross-section study. *BMC Family Practice* 22(116), pp 1-11.