

## SHORT ARTICLE

# Tele rehabilitation: two-year experience in conducting medical assessments via tele link

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### Introduction

Telemedicine has been practised for many decades since initial documentation in 1940s when radiology images were sent between two townships in Pennsylvania via telephone lines. Bioinstrumentation and transmission of astronauts' vital parameters to ground based flight surgeons came to forefront during NASA's space programme in 1960s. During following decades, telemedicine was used in multiple medical specialties as a mode of patient assessment. Use of telemedicine in Rehabilitation Medicine is relatively recent. As multidisciplinary coordinated care led by rehabilitation physicians and allied clinicians is required, proformas are used in tele rehabilitation assessments. Proformas help to generate a clinical document with medical and allied health assessments in one clinical record. Currently, delivery of rehabilitation services is further empowered, enhanced and in evolution with the installation of dedicated software programmes for use by allied health clinicians. Most units operating tele medicine for rehabilitation medical services use trained proctor with the client/patient to enable more comprehensive examination to aid clinical decision when the physician is stationed in a distant site.

### Evidence

Current evidence based on multi centre trials suggest that well conducted tele rehabilitation enable clinical outcomes similar to face to face rehabilitation. Advantages of tele rehabilitation being low cost and the ability to provide an increased volume of therapy [1]. Drawbacks include limitations in detailed examination and negative implications in rehabilitation goal setting. If patients are reviewed early, frequent and active communication is carried out during tele rehabilitation, patient centred goal setting can be improved [2].

### Methodology

Client assessments were from a city Hospital in Adelaide (Modbury Hospital) linked via a video link to a regional general hospital (Riverland General Hospital in Berri) 241 kilometres from Adelaide. Period assessed is from May 2016 to September 2018. Fortnightly tele ward rounds and additional initial inpatient and outpatient assessments were conducted via a video link. Both inpatient and outpatient clients were informed and educated about method of tele medicine and tele rehabilitation and consent was obtained for video-based assessments with the physician. A trained proctor was present at each assessment.

Tele rehabilitation services were provided using a secure, encrypted platform with privacy and confidentiality maintained. Video link was established via a licenced communication provider enabling an uninterrupted video connection linking patient and proctor with the physician. Electronic transfer of clinical records was done using a secure health email platform.

Trained proctor was a clinical nurse practitioner, physiotherapist or an occupational therapist trained to aid in clinical examinations required for musculoskeletal and neurological examination. Proformas were emailed to the physician prior to patient assessment with medical history, current vital parameters, medications and initial allied health assessments. Video based clinical assessments were recorded in a client proforma and a clinical report was generated. Radiology and haematology/biochemistry investigations were reviewed using a medial investigation software used in South Australian Health Service (Oasis). Urgent images requested by the physician were done locally or at a private service provider and snip tooled using a licenced health imaging access pathway. Allied health clinicians recorded initial functional levels using FIM (Functional Independent Measure). Following patient assessment, patient centred realistic goals were discussed with the patient and the multi-disciplinary team via video link.

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## Results

Assessments done from 18 May 2016 to 17 September 2018 were assessed. A total of 236 Tele medicine assessments were completed for patients/clients admitted for rehabilitation. Average duration for an assessment was 26 minutes. Patient satisfaction on tele medicine assessments was 100%.

## Conclusion

Tele medical assessments of patients admitted for rehabilitation is currently gaining momentum and more health funding is allocated for further expansion of tele medicine and tele rehabilitation. Carrying out medical assessments via a licenced video linkage allows clients/patients to be reviewed with minimal delay, closer to their homes and without the need to travel to a specialist centre in a city. Tele medical assessments save time for physicians as no travel time is required, objective assessments can be done

effectively with the help of a trained proctor. Assessment reports can be generated with minimal delay using proformas and electronically transferred to local GPs and multidisciplinary rehabilitation team members comprising physiotherapists, occupational therapists, nurse practitioners, social workers and nutritionists/dieticians. Tele medical assessments in rehabilitation aid uninterrupted rehabilitation service provision in a distant site. Patient satisfaction is high.

## References

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2. Plant SE, Tyson SF, Kirk S, Parsons J. What are the barriers and facilitators to goal-setting during rehabilitation for stroke and other acquired brain injuries? A systematic review and meta-synthesis. *Clin Rehabil*. 2016; **30**(9): 921-30.