

Plastic Surgery Trauma - Setting up a Telemedicine Service at a Major London Trauma Centre

Elliott David Smock, MRCS BSc, Dept of Plastic Surgery, St George's Hospital, London, United Kingdom; Caesar D Wek, MBBS, Plastic Surgery, St George's Hospital, London, United Kingdom; Caty D Milroy, MBBS FRCS, Plastic Surgery, St George's Hospital, London, United Kingdom

Abstract Text:

Purpose

Telemedicine provides diagnostic information in the form of high resolution images which allow 'the practise of medicine at a distance'(1). Our unit provides plastic surgery trauma care for a population of 3.5 million. We receive approximately 200 trauma referrals each month from a referral base of 6 NHS district general hospitals. We have set up a telemedicine system which allows patients to be referred from outlying hospitals.

We discuss how telemedicine has influenced the delivery of clinical care in our busy trauma centre and describe some of the difficulties encountered in setting this service up.

Design and methods

Qualitative and quantitative data was collected from our telemedicine referral database during the first month of operation. In particular, we looked at the volume of referrals from individual units, the case mix of referrals, including the anatomical location and nature of the injury, patient demographics and outcomes and indicators of improved photo-documentation of injuries.

Results

We received 31 telemedicine referrals in the first month of operation. These came from six regional outlying hospitals. Injuries were classified anatomically: 51.6% upper limb, 29.0% lower limb trauma and 19.3% head & neck trauma. An immediate decision was made regarding further management in 92% of cases. 6% of cases were booked directly for theatre. We found a significant improvement in photo-documentation of patient injuries ($p < 0.01$). Cameras are vulnerable to damage and loss. Mean life of our departmental camera was 74 days.

Conclusions

Trauma lends itself well to telemedicine as even simple injuries may be difficult to describe down a telephone. Photographs of injuries from the referring unit aid triage assessment and appropriate cases may be booked directly to theatre resulting in improved clinical and patient care. Other benefits include improved photo-documentation of injuries and storage in an encrypted system and patient cost savings. The main barriers in setting up this system are cost, training and encouraging outlying units to make referrals. Telemedicine is a useful modern means of managing trauma patients over distances and results in improved patient and clinical care.

Reference Citations:

- 1) Telemedicine in acute plastic surgical trauma and burns. S Jones, C Milroy, M Pickford. Ann Royal College Surg. 2004; 86:239-242.