

Chapter 69

The Impact of Mobile Phones on Plastic Surgery and Burn Management

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ABSTRACT

Mobile phones have progressively become an inseparable partner to plastic surgeons in their clinical practice. From using the mobile phone camera to take pictures of injuries and sending those for instant advice to searching for the best evidence articles in peer reviewed journals, mobile phones have changed the plastic surgeons' approach on the best way to manage their patients. The availability of information in mobile technology has allowed a growing market for education tools for plastic surgeons and patients, and the use of social media for marketing purposes. With the increased availability of smartphone applications, these devices have become an invaluable tool for the modern plastic surgeon.

INTRODUCTION

Traditionally defined as “a specialized branch of surgery concerned with deformities and defects of the integument (the skin) and the underlying musculoskeletal framework” (Converse, 1997, p.3), plastic surgery nowadays combines traditional areas of expertise and principles with innovation; the plastic surgeon performs operations in diverse anatomical areas of the body, using creativity and innovation to restore the form and function affected by traumatic injuries, burns, congenital abnormalities, and losses caused by infection, tumours or cancer excision (Thorne, 2007). Subdisciplines of plastic surgery may

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include, amongst others: cosmetic or aesthetic surgery, burn surgery, craniofacial surgery, hand surgery, microsurgery and paediatric plastic surgery.

Although recognized as a specialty with extensive field of work, plastic surgeons are not always available in most hospitals around the world; besides, plastic surgeons are usually busy seeing patients in their offices, running between different hospitals and clinics, or operating, which makes them difficult to reach by emergency department doctors and in training young surgeons. There is an even greater shortage in developing countries, particularly in rural areas where, due to costs, distances to bigger centres must be considered before the referral of patients who need assessment from the specialists. To address this issue and improve patient care through cost saving and time efficiency, an exponential growth for *telemedicine* (from the Greek prefix *tele* meaning ‘at a distance’ and the Latin word *meden* meaning ‘healing’) services in the field have been identified in recent years, varying from consultations by the telephone and image transfers with the purpose of diagnosis at a distance, to the complex technology of telesurgery (Grunwald, Krummel, & Sherman, 2014).

The new generation of smartphones are mobile phones with more advanced computing capability and connectivity. They boast higher resolution built-in digital cameras; larger crystal display screen; capacity to store data and images in archives; access to wireless data allowing on-line communication anywhere in the world and access to mobile applications – apps (Smartphone, 2014). These smartphones are equipped with the necessary technology to fulfil the prerequisites for a complete telemedicine system (‘m-health’), which by the World Health Organisation’s definition includes:

... the delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities. (World Health Organisation [WHO], 1998, as cited in WHO, 2010)

In the field of plastic surgery, patient’s conditions are basically evaluated by visual inspection (including acute traumatic wounds and burns), and mobile phones may be used in remote, rural and resource-poor settings to provide essential information to specialists in larger and academic centres. Plastic surgeons are able to assess images and data and define management strategies required for those patients. Communication occurs not only between the plastic surgeon and the referring physician from other sites in the emergency setting, but also between plastic surgeons and patients (for continuity of care); nurses and plastic surgeons (for surgical care instructions); junior/trainee and supervisor/mentor plastic surgeons (for management instructions), and between senior plastic surgeons and their peers (for remote collaboration on diagnostically complex cases).

The availability of information in mobile technology has also allowed a growing market for education tools for plastic surgeons and their potential patients, and the use of social media for marketing’s purpose.

In this chapter, the authors review the available literature on the use of mobile phones in the field of Plastic Surgery and Burns.

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