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Maxillofacial injury – a retrospective analysis of time lapse between injury and treatment

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DECLARATION

I, Michelle Isabella Porter, declare that this research report is my own work. It is being submitted for Degree of Master of Science in Dentistry in the University of the Witwatersrand, Johannesburg. It has not previously been submitted for any degree or examination at this or any other University.

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10th day of September 2011

DEDICATION

I dedicate this research report to my parents, Ernest and Elza Porter, who have worked so hard and sacrificed so much to give me the best education they possibly could.

ABSTRACT

Background: The sooner that a maxillofacial injury is treated the lower the complication rate will be, and the more ideal the healing. Staff in the Division of Maxillofacial and Oral Surgery at the Charlotte Maxeke Johannesburg Academic Hospital have an anecdotal belief that facial fractures are treated about three weeks after injury. An extensive search showed that no objective evidence on treatment times have been published in South Africa or internationally. The current study was undertaken to provide evidence.

Objective: To undertake a clinical audit to examine seven time intervals from fracture occurrence to patient discharge.

Methods: Data were recorded into a Microsoft Excel spreadsheet from the clinical records of 725 patients with facial fractures in 2002, 2004 and 2006. These data were analysed using SAS.

Results: The broad demographics of the 725 patients were 86% male and 14% female and 79% of fractures were due to interpersonal violence. For the total sample the mean times ±SD in days for the seven time intervals are fracture occurrence – hospital presentation 10.3±12.7, fracture occurrence – treatment 20.4±17.6, referral (n=333) – hospital presentation 4.5±8.3, referral – treatment 14.6±15.6, hospital presentation – treatment 10.3±11.8, treatment – discharge 1.3±2.0, hospital presentation – discharge 11.7±12.8. Statistically significant effects were noted for year of study for 6/7 time intervals while there were significant associations with referral and race for one time interval each.

Conclusions: For this unique study no data exists for comparison. The results suggest that that patients could reduce the time intervals from fracture occurrence to hospital presentation and treatment by seeking definitive treatment earlier – possible reasons for delay are mentioned in Chapter 4. From the side of MFOS clinicians, efficient referral for specialist treatment and more staff could further reduce time to treatment.

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GLOSSARY

CMJAH Charlotte Maxeke Johannesburg Academic Hospital

MFOS Maxillo-facial and oral surgery

MVA Motor vehicle accident

VA Vehicle accident

PVA Pedestrian vehicle accident

IPV Interpersonal violence

CRFM Closed reduction fractured mandible

ORIF Open reduction internal fixation