

**10****Comprehensive management of ballistic injuries in an urban America trauma unit**

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**Introduction:** Ballistic craniomaxillofacial injuries pose monumental challenges to the reconstructive surgeon. Complex injuries with extensive composite tissue loss mandates well orchestrated treatment plans. We sought to review the clinical experience at University of Maryland Shock Trauma Unit reflective of the increasing trend of violence in urban America.

**Materials and methods:** We undertook a retrospective record review of patients who sustained ballistic injuries to the maxillofacial region over a 4 year period (2002–2006). Data collected included patient demographics, diagnosis, airway management, vascular injuries, distribution of injury, immediate versus delayed hard and soft tissue management, modalities of reconstruction, post-operative complications, and nutritional support.

**Results:** Forty-eight patients were reviewed; 42 males, 6 females. The vast majority of injuries resulted from interpersonal violence from handguns, one resulted from a shotgun assault, and one case was a self inflicted wound. The majority of injuries involved the craniomaxillofacial skeleton; 50% involving the mandible, 30% to the fronto-orbito-zygomatic region, 21% to the midface, and 11% with isolated soft tissue injuries. Twelve patients required tracheotomy. Fourteen patients were immediately reconstructed; five were reconstructed with free tissue transfer, three with regional flaps, two with local flaps, and two with maxillofacial prosthetic devices.

**Conclusion:** Ballistic injuries are complex and highly variable in nature, and require a thoughtful comprehensive approach to restore normal function and form. Presented is the University of Maryland Department of Maxillofacial Surgery experience managing cranio-maxillofacial ballistic injuries.

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**11****To identify any synchronous primary tumours in the head and neck using virtual panendoscopy—A new imaging modality**

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**Introduction:** Oral cancer is the 5th or the 6th most common cancer in the UK. Several imaging modalities are used to stage the disease and to identify any synchronous primary tumours. Various steps are taken for this which includes naso-endoscopy, MRI, CT and PET. Virtual endoscopy is a

new non-invasive imaging modality. The data is manipulated using computer software programme to generate 3D models with fly through capability to examine the upper aero digestive tract.

**Aim:** The aim of this study is to compare virtual panendoscopy and conventional fibre optic endoscopy for the detection of synchronous primary cancer of the head and neck.

**Material and methods:** Ten consecutive patients diagnosed with oral cancer who had a CT scan of the head and neck in the multidetector CT scanner were included in the study. Those patients also had fibre optic naso-endoscopy as part of their traditional staging process. It was done double-blinded as a surgeon and radiologist were unaware of other's findings.

**Results:** High degree of similarity between virtual panendoscopy and conventional fibre optic endoscopy was seen. However more anatomical details were depicted on virtual panendoscopy where it was not accessible to conventional fibre optic endoscopy.

**Conclusion:** Virtual endoscopy is a new, non invasive diagnostic technique enabling extra information to be used by the surgeon to identify synchronous primary head and neck cancer in patients who are already diagnosed with oral cancer. Large study as a prospective multi centre randomised control trial is planned to confirm findings.

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**12****CT angiography as an aid to clinical decision making in the selective management of penetrating injuries to the neck: A reduction in the need for operative exploration**

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**Introduction:** Improvements in imaging technology, particularly computed tomographic angiography (CTA), have altered the management of patients with penetrating neck injuries. The purpose of this retrospective study is to evaluate our 5-year experience with the management of penetrating neck injuries, to the further elucidate the role of CTA in clinical decision-making, and to assess treatment outcome.

**Methods:** Clinical variables were collected and evaluated on all patients with penetrating neck injuries presenting to the Legacy Emanuel Hospital Trauma Service from 2000 to 2005. A statistical analysis using the Fisher exact test and *t*-test was performed to determine if the rate of neck exploration or the findings at the time of neck exploration were significantly different between those who had CTA and those who did not.

**Results:** Of the 120 patients identified 65 patients with neck injuries penetrating the platysma met the criteria for inclusion in the study. Group 1 (CTA) consisted of 24 patients and group 2 (no CTA) had 41 patients. Group 1 had sig-