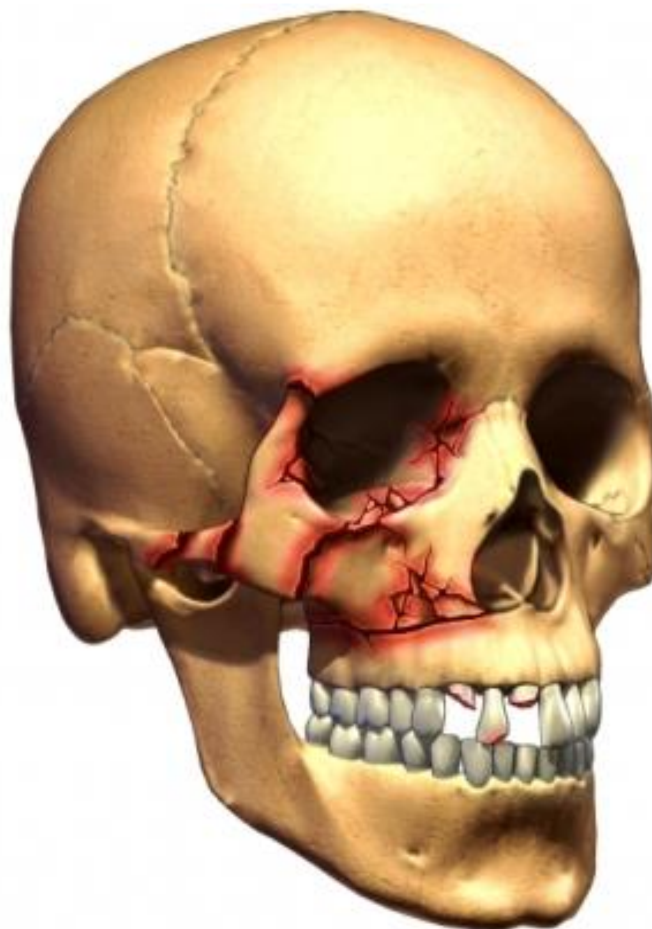
Oral and Maxillofacial Surgery



Resident Handbook

Updated Oct 2019
V.4

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Monash Health Prevocational Unit Handbook

Unit: *Oral Maxillofacial Surgery Unit*

Overview of Unit:

Welcome to the Oral and Maxillofacial Surgery (OMS) Unit at Monash Health. The service is based at Monash Medical Centre (Clayton and Moorabbin), Monash Children's, and Dandenong Hospital. This handbook will hopefully assist you in participating in the unit's daily activities, whilst giving you invaluable learning opportunities in managing patients with a variety of head and neck pathology, facial injuries, and dentofacial deformities.

The Dandenong OMS resident position is shared with ENT, and thus communication is essential in order to allow the unit to function efficiently.

The unit is staffed with 10 consultants, 2 registrars and is closely affiliated with the Specialist Dental Clinic and Cleft service at Clayton. Mr Christopher Poon is the Head of Unit.

Traditionally the OMS Unit does not have a heavy inpatient workload, however, there is a high turnover of outpatients and patients requiring short admissions for management of facial fractures and infections. The registrars are usually split over the various campuses at Monash Health so your knowledge of current inpatients and the management of patients after common procedures is important.

The OMS Unit is keen to teach junior staff as much as possible, so feel free to contact the OMS registrars at anytime to discuss patients, management issues, or surgical procedures.

Ann Diprose is the unit secretary for both ENT and OMS and will be happy to help you settle in. Please contact Ann for all general inquiries/leave requests/IT issues etc. Please inform Ann via text if you are unwell (afterhours) so we can communicate this to the home wards/registrars/unit. Ann is contactable on (992) 88799 / 0407 504 172 or Ann.Diprose@monashhealth.org

Zara Kingston and Jennifer Bruno are the unit's Surgical Liaison Nurses (SLN's) and are responsible for managing/monitoring the elective surgery waiting list, providing clinical guidance to booking clerks in theatre list bookings /construction, managing complex patients pre-operatively and triaging patient referrals to the most appropriate site. They are contactable on 0466 471 941 or Zara.Kingston@monashhealth.org; Jennifer.Bruno@monashhealth.org.

All patients require a Request for Elective Admission pack to be completed prior to going on the waiting list. This pack consists of a Request for Elective Admission form (REA), Consent form and patient health questionnaire. No patient will be accepted onto the waiting list without this pack completed. The REA's are triaged by the Liaison Nurse prior to going on the system.

Kylie Whitelaw is the Head & Neck Clinical Nurse Consultant. She is the key contact to referring any patients needing discussion at the Head & Neck Multidisciplinary Team Meeting at Moorabbin on Thursday afternoons. Kylie is contactable on HeadAndNeckCNC@monashhealth.org or 0417 337 674.

Useful contact numbers:

Switchboard/ Contact Centre – 9594 6666

DANDENONG HOSPITAL

Contact	Extension/pager
Nursing Supervisor	(959) 48239
Theatre	(955) 48174
Emergency Department	(955) 48950
ICU	(955) 48306
North ward	(955) 48950
Day Treatment Centre	(955) 48941
Outpatients/specialist clinics	(955) 41005
Diagnostic Imaging	(955) 48175
Pathology	(955) 48151
Pharmacy	(955) 48303

CLAYTON

Contact	Extension/pager
Nursing Supervisor (same for MCH)	(959) 42717 / pager 128 (BH) via switch (AH)
Theatre	(959) 43385
Emergency Department	(959) 46564 / 0420 304 514
ICU	(959) 46927
PICU	(959) 43196
Ward 32 South	(959) 46903
Day Treatment Centre	(959) 47700
Outpatients/specialist clinics (Clinic M)	(959) 42425
Specialist Dental Clinic	(959) 42380 / 46277
Diagnostic Imaging	(959) 42200
Pharmacy	(959) 42360

MONASH CHILDRENS HOSPITAL

Contact	Extension/pager
Nursing Supervisor (same for Clayton)	(959) 42717 / pager 128 (BH) via switch (AH)
Theatre	(857) 23700
Emergency Department	(857) 42963
NICU	(857) 43196
Ward Forest (overnight stay)	(857) 23648
Ward Lagoon (day stay)	(857) 23300

Outpatients/specialist clinics	(857) 23380
Diagnostic Imaging	(857) 23004
Pharmacy	(857) 23200

MOORABBIN

Contact	Extension/pager
Nursing Supervisor	(992) 88228
Theatre	(992) 88200 / 88209
Ward 3	(992) 88325
Ward 1	(992) 88731
Day Procedure Centre	(992) 88635
Outpatients/specialist clinics (1A)	(992) 88885
Diagnostic Imaging	(992) 88828
Pharmacy	(992) 88724

Orientation:

Please contact the site registrar for the morning ward round on your 1st day (as per welcome letter)

Annual leave requests:

As per Monash Doctors policy

Sick leave:

As per Monash Doctors policy. Please inform your relevant site registrar and Ann Diprose of any unplanned sick leave so that the relevant departments can be notified.

Overtime:

As per Monash Doctors policy.

Clinical responsibilities and tasks

CLINICAL DOCUMENTATION - It is a requirement that all entries in progress notes have the TIME, DATE, PRINTED NAME, SIGNATURE AND DESIGNATION of the doctor entered. This is a medico legal as well as a documentation standard. NB: e-notes are used in all outpatient clinics. Please ensure you are logged on as yourself so this is appropriately reflected.

Ward Work:
The resident should know all of the patients admitted under the unit, including locations and all investigation results. Patients admitted after hours should be thoroughly reviewed at the earliest opportunity. Investigations ordered during the day should all be followed up and acted upon in consultation with the registrar before the end of the day.

The resident should be able to examine every patient, check all bedside charts, check management plan with registrar, communicate with nurse in charge and record all progress in patient records daily.

Ward Rounds:
Ward rounds start at variable times:

- 7am every Tuesday and on any theatre day
- 7.30am Thursday mornings prior to the Consultant ward-round
- 730-8am otherwise dependent on the timetable
- Check with registrar the day before (negotiate with OMS and ENT registrar)

Prior to the daily ward round the resident should print out a list of the current inpatients, consults and combined head and neck patients with details of their name, location and which consultant they are under.

Admissions:

The resident should examine and make admission notes on every patient admitted to the unit.
For those patients intended for surgery, the consent should be checked and necessary radiographs located and obtained, and operation side marked.

Discharges:

The resident prepares discharge summaries and scripts after liaising with the registrar. For those patients who are admitted as day cases, the scripts and discharge summaries should be written in the operating theatre.

When submitting referral to outpatients for post-discharge review, please select home site of the consultant involved. Select '*Post admission,same specialty, no triage required*' **and** nominate the *Date* for review. Orthognathic (jaw) surgery and complex trauma (including orbits) patients should be seen in consultant clinic. If unsure please check with the registrar or consultant.

Day patients need to have their discharge paperwork completed before leaving the day centre.

Theatre:

The residents are encouraged to attend all OMS operating sessions and combined head and neck cases (usually Mondays, Dandenong) if they are available. Surgical assisting and hands on experience will be given whenever possible.

Audit/WebQI:

Every patient should be in this Database.

- Cases that go to theatre will automatically entered as part of the operation note

- Non operative cases will therefore need to be entered at the end of the day or week. Please see the registrar(s) at the end of outpatient clinic on Thursday morning to get a list of new fractures/pathology that need to be entered in WebQi. Normally kept in the Audit Book that lives in the residents room on North1, or by emails from weekend. **It is essential for our Surgical Audit.**

- **It is your responsibility to tally up the pt numbers from OPD on Thurs morning (total/FTA/walk-ins). Ask OPD nurse for the summary, and then enter it in the Audit book.**

- All patients MUST be discharged from WebQI when discharged from the ward to ensure the database is accurate and up to date at all times.

Outpatient Clinics:

<u>Dandenong:</u>

1) Teaching/Audit

When: 3 out of 4 Thursdays 0800-0900
Where: Lecture Theatre, Level 1, Dandenong Hospital, but often in **Volume café.**
Who: Consultants, Registrars, Medical Student
What to do:

- Registrars usually prepare a short talk on a relevant topic
- Interesting cases are discussed
- 1 in 4 weeks there is a trauma audit to discuss pre and post op management of patients treated over the last month

2) Outpatient Clinic:

When: Thursday 0900-1300
Where: Outpatient clinic, Level 2, Dandenong Hospital
Who: Consultant, Registrars, Medical Student
What to do:

- See new patients and patients for review as they come in
- If no spare room sit in with the DDH OMS reg

- Check management plans with registrars at the end of clinic
- Document progress in patient notes
- Organise bloods/scans/follow-up appointments as necessary
- Enter patient into WebQi Audit

3) Jaw (Orthognathic) Clinic

When: Monday 1330-1630
Where: Outpatient clinic, Level 2, Dandenong Hospital
Who: Registrars, Medical Student
What to do:
- This is a consultation clinic for patients pre and post op Jaw Surgery
- Residents are **not** expected to attend this clinic

4) Registrar Clinic
- Friday mornings 0730-0830 at Dandenong Hospital in the outpatient clinic
- Post-op reviews; when requesting, please select 'Same specialty, no triage required' and specify 'Friday AM review clinic' with the Date the appointment is required.

5) Surgical Review Clinic (SRC)
- Friday afternoons at Dandenong Hospital in the outpatient clinic
- As per any other specialty Preop/SR Clinic
  - History
  - Exam
  - Relevant investigations
  - Consultation with Anaethetist or OMS registrar if required
  - See below for procedure descriptions

Monash Medical Centre (Clayton)

1) Teaching
When: Friday (1:4) 1200-1300 (before Mr McMillan theatre)
Where: Clayton Dental Clinic
Who: Mr McMillan, Registrar, Dental registrar and resident, Medical student

2) Outpatient Clinic:
When: Wednesday 1330 – 1630
Where: Monash Medical Centre Clayton, Clinic B
Who: Consultants, Registrars, Dental Registrar & Resident, Medical Student
What to do: see above – same for Dandenong Outpatient clinic

3) Audit / Case discussion
When: Wednesday (1:4) 1630-1800
Where: Monash Medical Centre Meeting room (Location TBC)

Moorabbin

Combined Head and Neck Meeting (MDT) and Clinic
When: Thursday 1300
Where: MMC Moorabbin
Who: Coordinator: Kylie Whitelaw
Consultants/Registrars/Residents from OMS, Plastics and ENT
Radiology Consultant and reg
Radiation Oncology Consultant
Ward/theatre nursing staff
Speech Pathologist and Dietician

What to do:
- Meet in the upstairs conference room 1pm
- Patients are presented by the referring team (ENT or OMS or Plastics)
- Patients are brought in and examined by the relevant teams
- Patients leave the room and the radiology is discussed
- A final oncological plan is made and the patient is consulted after the meeting

Common Procedures:

SURGICAL REMOVAL OF TEETH:

Indication

- Patients attending the OMS unit for surgical removal of teeth under GA are frequently medically compromised or have had previous radiotherapy.
- If previous radiotherapy has been given. Please contact radio-oncologist (see below).

Pre-op

- Medically compromised patients should have appropriate consultation with hospital medical units to ensure stability of their concurrent medical condition.
- Relevant blood tests should be ordered and followed up prior to surgery
    - Often this includes INR, FBE, EUC, LFTs,
- Previous radiotherapy patients: REQUEST Radiotherapy fields (ie radiation doses mapped) to the jaws so that we may assess potential need for HBO therapy prior to extraction, or medical treatment (a week or month of PENTOCLO regime) to prevent Osteoradionecrosis (ORN). This will come from the Radio-oncologists.
- Check with the OMS registrar if you are unsure what to order

Procedure

- Surgical extraction of teeth usually involves: raising a gingival flap, removal of bone, and sectioning of teeth prior to their removal, closure with resorbable sutures

Post-Op

- Pain, swelling, and bruising usually lasts for approx 2 weeks
- Review in OMS clinic at the relevant campus 2-3 weeks post op

FACIAL FRACTURES:

Pre-OP

- Most facial fracture patients will be admitted out of hours. All multi trauma and high velocity motor vehicle injury patients must be assessed by the trauma unit.
- The Registrar should examine all patients to identify concurrent ophthalmic, head and cervical spine, abdominal, thoracic and limb injuries and ensure that the patient has adequate imaging of their fractures
    - Midface fractures – CT facial bones with orbital, saggital, 3D reconstructions (Please ensure all CT scans have a 3D reformat of facial bones. Contact radiographer.)
    - Mandibular fractures – OPG and PA mandible are essential
- They should then ensure that the patient is appropriately consented and that the duty consultant is aware of the patient's admission and of the likely operating time.

Procedures

Orbital/Zygomatic fractures:

- Incisions are made on the face, periorbital, and/or intraorbital depending on the type of fracture and method of treatment

- Titanium plates and screws are placed to stabilise the fracture at various points once the fracture is reduced
- You will need to ensure all orbital reconstructions and occasional midface/zygoma fractures have been pre-operative assessed by Ophthalmology. **DO THIS ASAP as theses assessments are difficult to arrange and achieve from Ophthalmology. Speak to the reg if there is a problem with ophthalmology.**

Post-Op
- Post op eye observations will be in the operation note
- Any concerns from the nursing staff regarding the possibility of a **retrobulbar haematoma** needs to be conveyed to the OMS registrar ASAP, as there is a risk of blindness.
- Post op imaging will vary. Normally a CT orbits for orbital fractures, and Occipitomental (OM15/30) and Submentovertex (for zygoma arches) views for zygomatic fractures are requested prior to discharge the day following surgery. Call the OMS registrar once they are done so they can be reviewed.
- Facial sutures to be removed 5-7 days post op (Check op note)
- Oral sutures are usually dissolving. They will always need Chlorhexidine m/w for 10 days to minimise infections.
- Reviewed in clinic 2 week post op
- No contact sports for 6-8 weeks post op
- No nose blowing for 2 weeks post op
- Discharged on :
    - Antibiotics (usually Augmentin DF BD 5 days)
    - Analgesia
    - Nasal spray (Drixine or Otrivine for 3 days, FESS nasal spray for 7 days)
    - Chlorhexidine if there is an intra-oral wound (10mls TDS 10 Days).

Mandibular/Maxillary fractures
- Incisions are predominantly conducted via an intraoral route
- Arch bars ('metal braces') or IMF screws maybe used to help establish and maintain the occlusion intra and post operatively : they are usually kept in place for approximately 4-6 weeks post op. Please make an appointment for removal with OMFS LA Clinic in Clayton Wednesday morning. Phone Sam/Svetlana to arrange **42380**.
- Titanium plates and screws are placed to stabilise the fracture at various points once the fracture is reduced. These stay in situ indefinitely unless they become infected. We normally try and wait 2 months before removing to ensure adequate bony union, and will give Ab's in the interim.

Post op
- Soft NON CHEW Diet for 4-6 weeks
- Patients are to have a post op OPG and PA mandible to assess reduction of fractures
- Reviewed in clinic 1 week post op
- No contact sports for 6-8 weeks post op
- Discharged on :
    - Mouthwash (Chlorhexidine Mouthwash 10mls TDS 10 Days)
    - Antibiotics (usually Augmentin DF BD 5 days)
    - Analgesia

INFECTIONS:

Indication

- Odontogenic infections may cause potentially life threatening airway compromise. Any patient demonstrating stridor, dyspnoea, dysphagia, or odynophagia should be considered as an imminent airway threat and managed promptly, often in consultation with the ENT unit if a fiberoptic nasoendoscopy is necessary.

Pre-Op

- A preop OPG is necessary to help determine if and what teeth are involved with the infection
- Often a CT neck with contrast is required to identify those spaces involved or where the collection of pus is situated. Airway management takes precedence over any CT investigation.
- Bloods : FBE, EUC, CRP + others as required
- The resident should ensure that patient is adequately fasted and consented for incision and drainage of the infection, removal of the offending tooth if still in situ and the possibility of a secured airway post-operatively, that is either a tracheostomy or post-operative intubation within the intensive care unit.
- Minor infections, without threat to airway, may be treated with tooth extraction and I&D in the MMC dental clinic as a day procedure under LA.

Procedure

- More serious infections are treated under GA
- Treatment usually involves
    - Extraction of necessary teeth
    - Incisions in the mouth and/or neck
    - Insertion of a drain to allow ongoing drainage

Post Op

- Usually patient return to the ward
- If airway is an issue then a post op HDU/ICU bed will need to be organised
- Drains are usually removed or shortened 1-2 days after drainage
- Repeat bloods – most of the times DAILY WCC/CRP at 0500, unless requested as non bloods needed.
- Discharged once deemed clinically stable by the registrar
- Reviewed in clinic in 1 week
- Discharged on :
    - Mouthwash (Chlorhexidine Mouthwash 10mls TDS 10 Days)
    - Antibiotics (usually Amoxycillin 500mg TDS + Metronidazole 400mg BD 5 days)
    - Analgesia

ORTHOGNATHIC ('JAW') SURGERY

Indication
- Commonly performed orthognathic procedures include surgically assisted maxillary expansions (SAME), bilateral sagittal split osteotomies (BSSO) and bimaxillary osteotomies (Bimax).

Pre-Op
- Patients and their parents would have had several consultation appointments with the OMS team pre op including consent
- ALL BIMAX procedures must have a FBC and Group and Hold pre-op valid.
- Confirm they have been consented and understand the usual post-operative course as well as general and specific complications associated with their procedure.
- These are as follows;

  General
  - Bleeding, including the possibility of transfusion and autologous blood donation
  - Infection, requiring possible removal of plates and screws
  - Anaesthetic complications inclusive of allergy to prescribed medications, medical, including thrombosis and respiratory complications.

  Specific
  - Neurovascular injury resulting in temporary or permanent numbness, change in feeling or pain to V2/3.
  - Relapse or malocclusion early or late post-operatively requiring possible second operation
  - Damage to teeth, change in colour
  - Post-operative swelling. The patient is often informed that they will "look like a football" post-operatively, but this will settle over time.

Procedure
- Intra-oral incisions are made
- Bone is osteotomised and relocated to their pre determined position
- Stabilised with titanium plates and screws
- Closure with dissolving sutures

Post-Op
- Patient will be swollen and bruised, worsening over the first 48-72 hours
- They will have elastic bands between teeth to guide, allowing them to open their mouth a little Spare elastic bands should be given (about 10).
- Oral intake consists of pureed diet (type C) for approx 3 weeks, followed by soft diet (Type A) for another 3 weeks. A dietician should see the patient.
- A post op OPG is required.
- Bimaxillary osteotomies need to have post op FBE and EUC along with a fluid chart day 1 post-op.
- Any uncontrollable bleeding – call the OMS registrar ASAP. Small amounts of oozing is not unexpected in the first 24 hours post op
- Reviewed in clinic 1 week post op.
- Discharged on:
  - Mouthwash (Chlorhexidine Mouthwash 10mls TDS 10 Days)
  - Antibiotics (usually Cephalexin 5 days)
  - Analgesia

ORAL CANCER/ORAL PATHOLOGY:

Indication
- Patients requiring surgical excision of oral cancers or benign tumours are treated in combined approach with ENT, Plastic, and OMS teams

Pre-OP
- All patients who are likely to undergo maxillary or mandibular resection or are possible candidates for post-operative radiotherapy should have a pre-operative OPG prior to their procedure to enable planning for the mandibular surgery as well as assessment of their dentition for planning of necessary concurrent dental extractions.
- Staging investigations include (Registrar to advise)
  - CT neck, chest
  - PET Scan (ask Reg if needed)
  - MRI
- Bloods: FBE, EUC, LFTs, Coags, Group and Hold
- For the larger head and neck surgery cases, patients are seen in the Anaesthetic Clinic. Consent should already have been done by the most appropriate registrar +/- consultant after the Thursday head and neck clinic. Because these are big and long operations, consent should usually include the possibility of death and tracheostomy/NG and PICC insertion should also be considered.
- Occasional need for referral to Drugs and alcohol and to prevent DTs post-op.

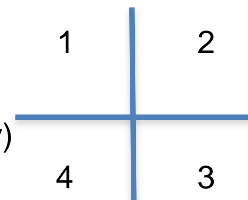
Treatment
- Surgical treatment is highly variable and is dependent on the tumour and patient along with the Head and Neck MDT's treatment plan
- Usually consists of :
  - Extraction of teeth as required
  - Excision of the tumour : Mucosa/Skin/Mandible/Maxilla
  - Neck Dissection
  - Tracheostomy
  - Reconstruction with or without a free flap

Post Op
- Post operatively patients are usually managed by ENT, Plastic, and OMS teams depending on who was involved with the operation
- Most larger cases are admitted to ICU post op

TIPS:

1) Abbreviations:

- BSSO – Bilateral Saggital Split Osteotomy (Mandibular Surgery)
- SAME – Surgically Assisted Maxillary Expansion (widening of maxilla)



- BIMAX – Bimaxillary osteotomy (maxillary and mandibular surgery)
- Teeth nomenclature-
    i. mouth divided into quadrants
    ii. right upper = quadrant 1; other quadrants numbered in clockwise fashion
    iii. Eight adult teeth in each quadrant, numbered 1 to 8 from midline (ie central incisor tooth 1, and the last tooth, the third molar (wisdom tooth) is number 8)
    iv. Each tooth labelled with the quadrant number followed by their tooth number (ie right upper central incisor is 11 ("one-one") and the right upper third molar is 18 "one-eight")

    EG: removal of four wisdom teeth = r/o 18,28,38,48 (or 4 x 8s)

2) For Orthognathic cases (SAME, BSSO, Bimax)

- Know the orthodontist
- Ensure G&H for bimax
- <u>Ensure patient has surgical hooks on braces prior to surgery, or Hyrax appliance if for SAME (applied by orthodontist)</u>
- Registrar should already have models and scans organised (not usually on centricity)

3) Follow up bloods prior to theatre

4) Bisphosphonate/Denosumab therapy
- Alert registrar if any patients are on oral or IV anti-resorptive therapy for osteoporosis or bone metastases. (eg Fosamax, Actonel, Zometa, Aclasta, Prolia), particularly if having dento-alveolar procedures. Patients are at risk of MRONJ (medication related osteonecrosis of the jaw)

5) Aspirin and warfarin therapy
- Not all OMS cases require the cessation of anticoagulant/antiplatelet therapies – e.g. dental clearance.
- Check with the registrar if you are unsure.

Potential clinical emergencies:

- AIRWAY compromise associated with perioral and neck space infections
    - Red flag signs are – Trismus < 2cm, odynophagia, dysphagia, dyspnoea, stridor, floor of mouth oedema, restricted tongue movement
    - Alert the Registrar immediately if any of the above are detected
    - Patients should be nursed at the minimum in a well visualised environment with head up 30 degrees
    - Airway swelling can also occur postoperatively following I+D due to surgically induced oedema
    - If in doubt, fast the patient, image expediently, commence IV antibiotics and alert the Registrar
- HAEMORRHAGE (oncology, trauma, orthognathic, dento-alveolar surgery)
    - Basic ABCs – apply supplemental O2, suction at bedside, IV access and bloods
    - Apply pressure gauze (+/- topical tranexamic acid 5% soaked on gauze)
    - Alert Registrar early
    - Administration of LA containing adrenaline to the bleeding site may help (but discuss with Registrar first)
- Orbital compartment syndrome
    - Typically occurs following trauma or orbital reconstruction (occasionally complex zygoma fracture surgery)
    - Risks permanent blindness if not detected and treated early
    - Diagnosis –
        - Disproportionate pain, loss of pupillary light reflexes, reduced visual acuity, reduced eye motion, proptosis, tense globe
        - INFORM REG immediately as patient will require urgent OT for decompression
    - Immediate management – none of these are definitive management; only buy time until definitive surgical intervention!
        - IV mannitol 20%, 1.5-2G/kg
        - IV acetazolamide 500mg
        - IV dexamethasone 8mg
        - Timolol eye drops to affected eye
        - Lateral canthotomy (do not perform this without discussion with senior)

Patient Information

The Oral Maxillofacial Unit have patient information available on the intranet for you to print off for patient's pre or post-surgery (Intranet_Patient Results & Information_Patient Information_Library of Patient Information – General_E (see below)

Oral Maxillofacial Surgery
Cleft surgery New
Facial Jaw Fracture Surgery New
Jaw Surgery New
Oral Surgery New