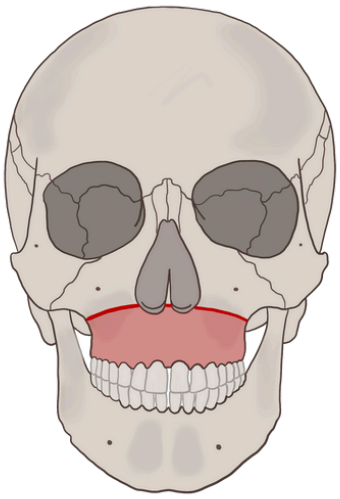
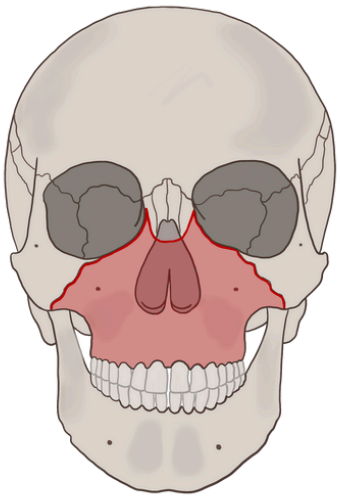
ONTARIO ASSOCIATION OF CRANIOFACIAL TRAUMA SURGEONS

(OACTS)

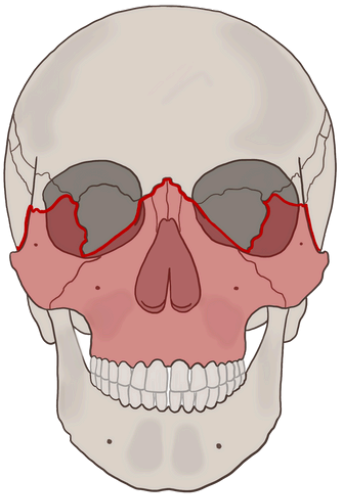
LEFORT FRACTURES



LEFORT 1



LEFORT 2



LEFORT 3

What is it?
A complex fracture of the skeleton making up the midface, involving the upper teeth

How does it happen?
A high impact force (e.g., vehicle collision, sports, fall from high height)

Signs of a LeFort I fracture:

- Face swelling
- Midface pain to touch
- Bruising around eyes
- Nosebleeds
- New malalignment of teeth (i.e., malocclusion)
- With LeFort II/III possible vision changes

How is it diagnosed?
CT of facial bones

Indications for Surgery:
1. To re-establish normal bite
2. To restore functional integrity of the nose and orbit (LeFort II/III)
3. To re-establish normal cosmesis of face

Risks of Surgery:

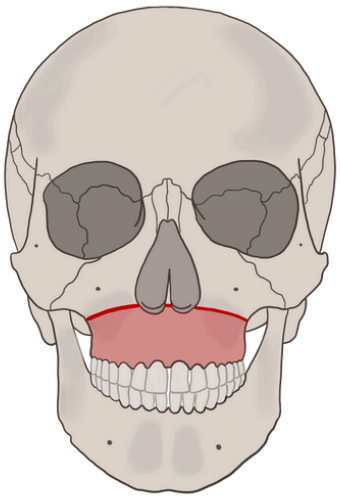
- Persistent malocclusion, bony malunion/nonunion
- Dental injuries, injury to the globe
- Injury to tear duct (nasolacrimal duct) (LeFort II)
- Sensory deficits
- Infection
- Bleeding from nose; clear liquid running from nose (CSF rhinorrhea)
- Scarring
- Hardware failure, exposure, or infection

*Smoking and alcohol use are associated with a higher rate of complications.

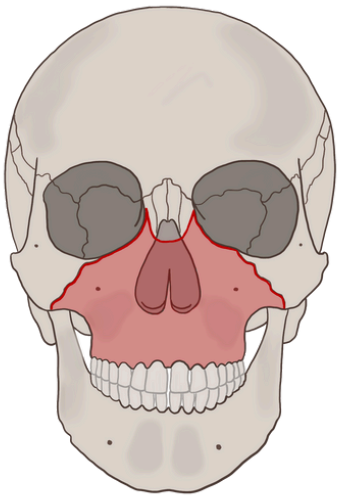
ONTARIO ASSOCIATION OF CRANIOFACIAL TRAUMA SURGEONS

(OACTS)

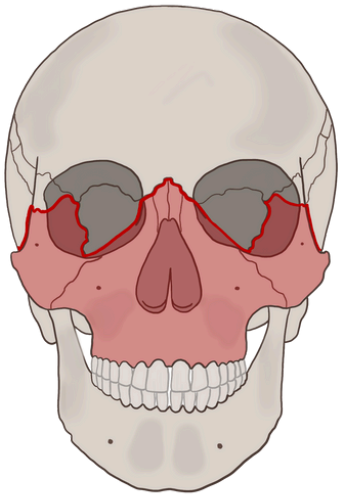
LEFORT FRACTURES



LEFORT 1



LEFORT 2



LEFORT 3

Surgical Incisions to Expect

Every fracture and incision is different, surgical type and exposure will depend on each unique patient fracture. Please speak to your surgeon about what to expect.

Typical incisions include:

- inside mucosa of mouth (upper buccal sulcus) (LeFort I/II)
- in hairline or scalp (coronal) (LeFort II/III)
- possibly a lower eyelid incision (LeFort II), upper eyelid incision, bicoronal (hairline) (LeFort III)

If your injury involved a cut on your face, it may be used to surgically expose the fracture. If you have sustained other fractures at the same time, incisions may differ. Surgery is not necessarily done immediately.

Maxillomandibular Fixation (MMF)

- Applied as braces, a “cast for the mouth”, allows us to put teeth in proper position while we fix the fracture
- Typically removed after surgery, surgeon does what’s best for your dentition
- MMF may remain for several weeks after surgery to help with healing

Sinus precautions (LeFort II/III)

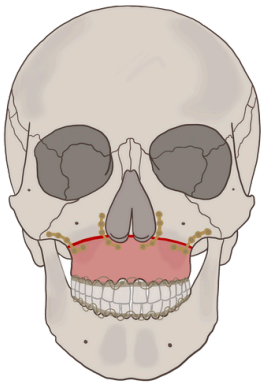
- Avoid blowing your nose: this can cause your fracture to increse in size and can cause worsening swelling
- Sneeze only with your mouth open and avoid pinching your nostrils
- Do not use a straw, drink directly from a cup
- Keep the head of your bed elevated at 30°: this will help reduce swelling

ONTARIO ASSOCIATION OF CRANIOFACIAL TRAUMA SURGEONS

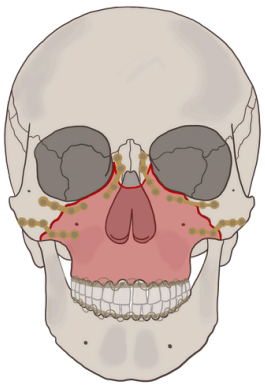
(OACTS)

LEFORT FRACTURES

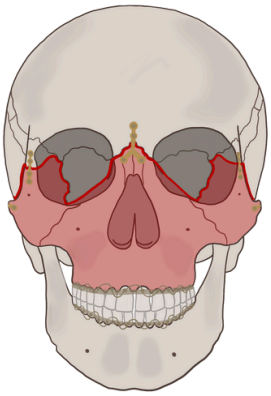
POST-OPERATIVE CARE



LEFORT 1



LEFORT 2



LEFORT 3

Treatment

Surgical Management

- Uncomplicated fractures: maxillomandibular fixation (MMF) where your upper and lower jaw are wired together, using wires and arch bars (similar to braces with elastics)
  - Stays in place for 2 to 6 weeks to realign teeth
- Displaced/mobile fractures: open reduction internal fixation (ORIF) procedure is needed using plates and screws to stabilize the fracture

Non-Surgical Management

- You will be kept upright after surgery to decrease pain and swelling
- With longer periods of MMF, some patients may require physical therapy to restore their jaw range of motion
- Rinse mouth with chlorhexidine twice a day to prevent infection, do not eat for ½ hr after, brush teeth regularly and rinse with water after meals
- Sinus precautions (LeFort II/III) will continue for 6 weeks including:
  - No nose blowing
  - Sneeze with your mouth open only and don't pinch nostrils
  - Do not use a straw, continue to drink directly from a cup

Medications

Pain control: acetaminophen, NSAIDs, and/or opioids as prescribed
Antibiotics: may be prescribed if fracture involves teeth, gums, mucosa
Sore throat/nasal congestion: over the counter nasal decongestant (e.g., Benadryl)

Diet

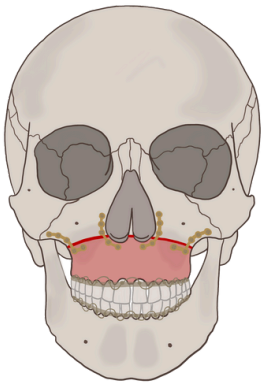
- Soft diet until incision inside mouth is healed
- If MMF used, liquid food while MMF is in place
- A dietician may also be involved - nutritional intervention during MMF of LeFort fractures prevents weight loss and improves quality of life

ONTARIO ASSOCIATION OF CRANIOFACIAL TRAUMA SURGEONS

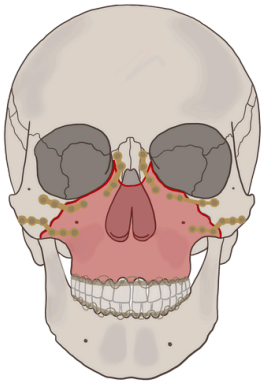
(OACTS)

LEFORT FRACTURES

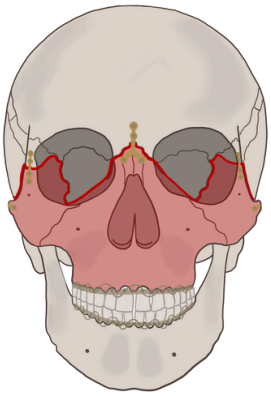
POST-OPERATIVE CARE



LEFORT 1



LEFORT 2



LEFORT 3

Activity

- Physical activity should be kept to a minimum for at least 6-8 weeks after surgery
- Contact or other sports should be avoided for 3 months to minimize the risk of another fracture
- Avoid dental work (dental cleaning is fine) for 3 months
- Be cautious around young kids and dogs
- An airplane/neck pillow is recommended when sleeping to keep the head straight
- Flying after orbital fracture repair in commercial flights is safe (LeFort II/III)
- Maintain sinus precautions for 6 weeks (LeFort II/III)

Wound Care

- For the first 48 hours after surgery, use ice packs to help minimize swelling
- Sutures inside the mouth will dissolve in 3-4 weeks
- If incision was done in hair (bicoronal), you can wash your hair immediately after surgery and apply polysporin
- Eyelid sutures (LeFort II/III), surgical tape will be applied and removed within 5-7 days, you can shower right away but pat them dry
- Rinse mouth regularly with chlorhexidine/listerine, a child's toothbrush can be used to clean outside of teeth
- Dental wax can be placed over the MMF wires if rubbing/painful

Seek care if you experience:

- Fever over 38°C, new redness/swelling pus or foul odour discharge
- Acute change in vision or vision loss (LeFort II/III)
- Acute onset pain around eye with bulging (retrobulbar hematoma) (LeFort II/III)
- New onset of clear fluid or uncontrolled blood dripping from nose (LeFort II/III)
- Reach out to your surgeon if you notice loosening of your MMF

Please contact your surgeon or present to nearest emergency department.