LE MED NASAL SPLINT TO MINIMISE SOME COMMON COMPLICATIONS IN RHINOPLASTY

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Rhinoplasty remains one of the most sought after cosmetic procedures. It can be life changing surgery for many of our patients. Sadly, it is not always a change for the better. Complications can not always be prevented which can lead to many unhappy patients. Le Med Nasal Splint is a simple device which can help minimise and prevent many complications such as swelling, oedema, haemorrhage, implant displacement, filler migration, malposition, step and open roof deformity. Le Med Nasal Splint can enhance the cosmetic result of injectable as well as surgical rhinoplasty.
DECLARATION OF INTERESTS

I am the inventor of Le Med Nasal Splint, a major share holder and director of Le Med PTY LTD.

WITH THREE FEATURES:

1. INVISIBLE
2. GENTLE COMPRESSION FORCE
3. UNIQUE TRACTION FORCE
RESULT OF NOSE FILLER
RESULT OF NOSE FILLER
I was happy with this result, but...
... now I can get better with Le Med Nasal Splint.

Possible result if Le Med Splint was used

Possible result if Le Med Splint was used
Complications of Rhinoplasty and Solutions

1. HAEMORRHAGE 2-4%
   Rx compression - pressure bandage, Le Med Nasal Splint to prevent post-op bleeding. Cauterisation. Vasoconstrictor i.e. LA with adrenaline
2. INFECTION variously quoted around 2%. Localised cellulitis, abscesses, or granuloma may respond to antibiotics and drainage. No consistent data to prove routine antibiotic prophylaxis reduces wound infection.

Rx prompt and adequate skin inspection is the key to manage infection.

3. SKIN NECROSIS: excessive undermining and cautery use, and overzealous skin thinning can increase the risk of skin necrosis.
4. OEDEMA AND ECCHYMOSIS: last between 10 days to 14 days. Risk factors: Osteotomies, prolonged operating time, excessive nasal packing, postoperative vomiting, raised blood pressure and inadequate haemostasis

SUBCONJUNCTIVAL ECCHYMOSIS reported to be around 20%

PERSISTING OEDEMA can last several months

INFRAORBITAL HAEMATOMA - “shadows below the eyes” is reabsorbed slowly in months

Rx intraoperative intravenous steroid, postoperative head elevation, cold compression to the nose, blood pressure monitoring and Le Med Nasal Splint can minimise oedema
CASE STUDY NUMBER 1

- 55 year old female. No significant medical history
- Aquamid injectable rhinoplasty 10 years ago. She was happy with the result back then
- Few years later she wanted a higher bridge and underwent surgical rhinoplasty using costal cartilage. Aquamid was removed at the time. She wasn’t happy with the result due to “my nose looked fat all the time”
- She underwent a second surgery with a different doctor but still wasn’t happy
- A year later she came to me for help and requesting a 3rd operation to correct her puffy nose!
CASE STUDY

We realised that her concerns were about her skin-soft tissue envelope - not nasal structure!

We didn’t offer her an operation, but this
UNIQUE TRACTION FORCE

THE RECOIL FORCE - TENDENCY OF THE SPLINT TO RETURN TO ITS RESTING SHAPE - IS THE COMBINATION OF THE TRACTION FORCE - PARALLEL TO THE SKIN AND COMPRESSION FORCE - PERPENDICULAR TO THE SKIN

TRACTION FORCE IS CREATED BECAUSE THE SPLINT IS TRYING TO RETURN TO ITS ORIGINAL SHAPE WHILE BEING WORN

ORIGINAL SHAPE OF THE SPLINT

ORIGINAL SHAPE OF THE NOSE

SKIN BEING PULLED UP

ORIGINAL SHAPE OF THE SPLINT

NEW SHAPE OF THE SPLINT

NEW SHAPE OF THE NOSE

GREEN ARROWS SHOW DIRECTIONS OF THE TRACTION FORCE
Alar collapse, pinched tip and saddling...

Due to:

- Excessive resection of the lower lateral cartilage
- Transection of the domes
- Over-excised of cartilaginous dorsum
- **Contraction** of skin-soft tissue envelope

Le Med Nasal Splint due to its unique **traction force** will **gather extra skin medially** which in turn will **minimise** skin contraction.
OPEN ROOF DEFORMITY

Common causes:
- Greenstick cephalic fracture during osteotomies.
- Inadequate mobilisation of the fractured segments medially.
- Overzealous nasal packing.

The use of Le Med Nasal Splint will aid with the correction.

INWARD AND UPWARD FORCE MINIMISED OPEN ROOF DEFORMITY
OPEN ROOF DEFORMITY - SADDLE NOSE CAN BE CORRECTED WITH LE MED NASAL SPLINT?

Possible result if it is used from day 1.
“STEP” DEFORMITY

This deformity is due to a single lateral osteotomy too far medial to the nasofacial groove. Repeating the osteotomy at the right level will help to correct the problem.

The use of Le Med Nasal Splint will aid with the correction.
Complications of Injectable Rhinoplasty

AVASCULAR NECROSIS with injectable rhinoplasty can be avoided with direct infiltration of LA with adrenaline, 10 minutes before the procedure, stay in the mid line while injecting. Others suggest compression of facial or angular arteries. Early recognition and intervention is the key: Aspirin, nitroglycerin paste, hyaluronidase, antibiotic
Complications of Injectable Rhinoplasty

- Infection, bruising and initial swelling are minor

- Granuloma, **chronic swelling** due to ongoing infection and/or inflammation are more serious. Injectable silicone is the worse offender

_**Rx Le Med Nasal Splint is an excellent tool to correct chronic swelling or oedema**_
Complications of Injectable Rhinoplasty

- Filler migration and displacement are not uncommon
- Malposition of filler can happen even in experts’ hand

Rx Le Med splint can effectively correct filler migration/displacement and malposition.
Is this achievable with Le Med Nasal Splint?

Possible result if Le Med Splint was used
MARKET AVAILABLE NASAL SPLINTS:
PLASTER, THERMAL PLASTIC AND ALUMINIUM

It has to be custom made.

Rigid and become loose when the post-op oedema subsides. A new one needs to be made to replace the previous one. Each time it can cost between 5-10 minutes of the surgeon’s time.

Obscure the surgeon’s vision to inspect for post-op swelling, bruising, infection, inflammation, skin demarcation, ulceration and necrosis.
MARKET AVAILABLE SPLINTS

Thermoplastic Nasal Splint
LE MED NASAL SPLINT
TECHNICAL FEATURES Summary

Ergonomic - following facial contour

Rolled edges - additional comfort and avoid demarcation

Gentle changeable compression force between 3-5mm Hg - no compromising of skin circulation
Unique traction force

Unique split design and special elastic material of the spine to provide ventilation and gentle compression force

Unique design and rigid material of the side panels provides maximum protection for the nasal walls

High tech transparent bio-compatible materials
TECHNICAL FEATURES continued

Four sizes:

- Petite 35x35x52x1mm
- Small 40x40x60x1mm
- Medium 45x45x68x1mm
- Large 50x50x76x1mm
<table>
<thead>
<tr>
<th>FEATURES</th>
<th>LE MED</th>
<th>ALUMINIUM</th>
<th>THERMO-PLASTIC</th>
<th>PLASTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN BE APPLIED BY PATIENT</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
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<tr>
<td>MOULDABLE</td>
<td>YES, AUTOMATIC</td>
<td>NO</td>
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<td>RESHAPE THE NOSE</td>
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<tr>
<td>GENTLE COMPRESSION FORCE &amp; UNIQUE Traction FORCE</td>
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<tr>
<td>REDUCE SWELLING AND BLEEDING</td>
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<td>NO</td>
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<tr>
<td>REDUCE POST OP PAIN</td>
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<td>NO</td>
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<td>DIRECT INSPECTION OF SKIN</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
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<tr>
<td>PREVENT AND CORRECT MALPOSITION OF FILLER</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
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<tr>
<td>PREVENT AND CORRECT MALUNION OF FRACTURED NASAL BONE</td>
<td>YES</td>
<td>NO</td>
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## Comparisons

<table>
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<tr>
<th>Features</th>
<th>Le Med</th>
<th>Aluminium</th>
<th>Thermo-Plastic</th>
<th>Plaster</th>
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<tbody>
<tr>
<td>Ergonomic</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Rolled and Rounded Edges</td>
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<td>Ventilation</td>
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<td>Waterproof</td>
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<td>Invisible</td>
<td>Yes</td>
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<td>Enhance Compliance</td>
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<td>Time Efficient</td>
<td>Yes</td>
<td>No</td>
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<td>Includes Dorsal Pad</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Avoid External Tapping</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>FEATURES</td>
<td>LE MED</td>
<td>Aluminium</td>
<td>ThermoPlastic</td>
<td>Plaster</td>
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<tr>
<td>Becomes loose when oedema subsides</td>
<td>No, it maintains constant grip the whole time</td>
<td>Yes, needs new one to replace the loose one</td>
<td>Yes, needs new one to replace the loose one</td>
<td>Yes, needs new one to replace the loose one</td>
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<td>Relatively low cost</td>
<td>Yes</td>
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CONCLUSIONS

OUTCOMES OF COSMETIC SURGERY

1. Happy patient vs. happy surgeon
2. Happy patient vs. unhappy surgeon
3. Unhappy patient vs. happy surgeon - bad combination!
4. Unhappy patient vs. unhappy surgeon

Complications will happen! Doesn’t matter how good you are

“Ultimate complication” is a court case - adverse outcomes affect both doctor and patient in more than one way: physically, psychologically, financially and socially. Patient committed suicide and doctor being assassinated has been reported.
PATIENT SELECTION - PICK THE ONE YOU CAN MATCH WITH HER/HIS EXPECTATION!

RULE 1: Doctor should know EXACTLY what the patient wants NOT what he/she wants for the patient or what they THINK the patient might want. Break this rule you and already have an unhappy patient even before you start to work on him/her.

RULE 2: Doctor must be confident that he/she can deliver the expectation. Know your limitations.

RULE 3: No over promising. Deliver to him/her what you promise or more than what you promise. Tell them all the risks and possible complications i.e. prepare them for the worst and deliver them the best possible outcome.
MORE INDICATIONS

- Can be used for post trauma or injury
- Emergency Departments and First Aid kits
- Reshape normal noses
- Improve breathing and reduce snoring (?)
# TOP 5 COSMETIC PROCEDURES

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<tbody>
<tr>
<td>Breast Augmentation</td>
<td>212,500</td>
<td>291,000</td>
<td>296,203</td>
<td>307,180</td>
<td>286,274</td>
<td>290,224</td>
<td>286,254</td>
<td>279,143</td>
<td>290,467</td>
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<tr>
<td>Nose Reshaping</td>
<td>389,155</td>
<td>298,000</td>
<td>252,216</td>
<td>243,772</td>
<td>242,684</td>
<td>221,053</td>
<td>217,124</td>
<td>217,979</td>
<td>223,018</td>
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<td>Liposuction</td>
<td>354,015</td>
<td>324,000</td>
<td>203,106</td>
<td>204,702</td>
<td>202,128</td>
<td>215,641</td>
<td>210,552</td>
<td>222,051</td>
<td>235,237</td>
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<td>Eyelid Surgery</td>
<td>327,514</td>
<td>231,000</td>
<td>208,764</td>
<td>196,286</td>
<td>204,015</td>
<td>119,817</td>
<td>206,509</td>
<td>203,934</td>
<td>209,020</td>
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<td>Facelift</td>
<td>133,856</td>
<td>112,955</td>
<td>119,026</td>
<td>126,320</td>
<td>133,320</td>
<td>128,226</td>
<td>125,711</td>
<td>131,106</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1,419,040</strong></td>
<td><strong>1,146,005</strong></td>
<td><strong>1,073,244</strong></td>
<td><strong>1,070,966</strong></td>
<td><strong>1,061,421</strong></td>
<td><strong>980,055</strong></td>
<td><strong>1,048,665</strong></td>
<td><strong>1,048,818</strong></td>
<td><strong>1,088,848</strong></td>
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</table>

Source: AMERICAN SOCIETY OF PLASTIC SURGEONS
TOP 5 COSMETIC PROCEDURES

Top 5 Cosmetic Procedural Trends

- Breast Augmentation
- Nose Reshaping
- Liposuction
- Eyelid Surgery
- Facelift
- Nose Reshaping
INTERESTING CASES
Thank You!