

# ABSTRACT



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

# RESULT OF NOSE FILLER



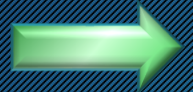
## RESULT OF NOSE FILLER



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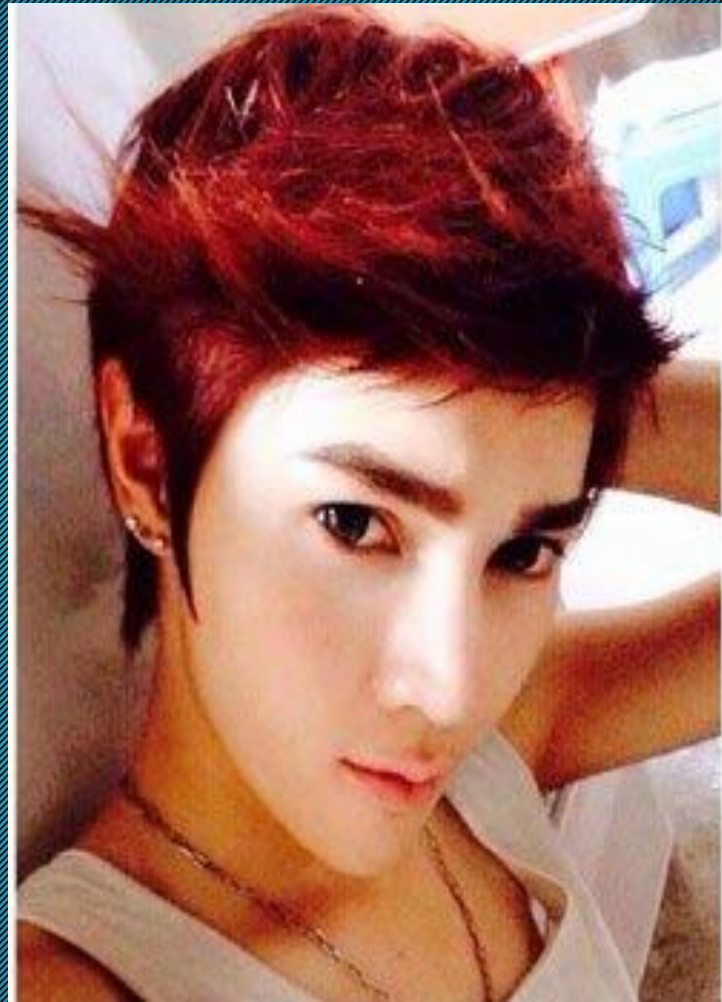


# Complications of Rhinoplasty and Solutions



1. HAEMORRHAGE 2-4%

Rx compression - pressure bandage, Le Med Nasal Splint-to prevent post-op bleeding. Cauterisation. Vasoconstrictor i.e. LA with adrenaline



# Complications of Rhinoplasty and Solutions



➡ 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

# Complications of Rhinoplasty and Solutions



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



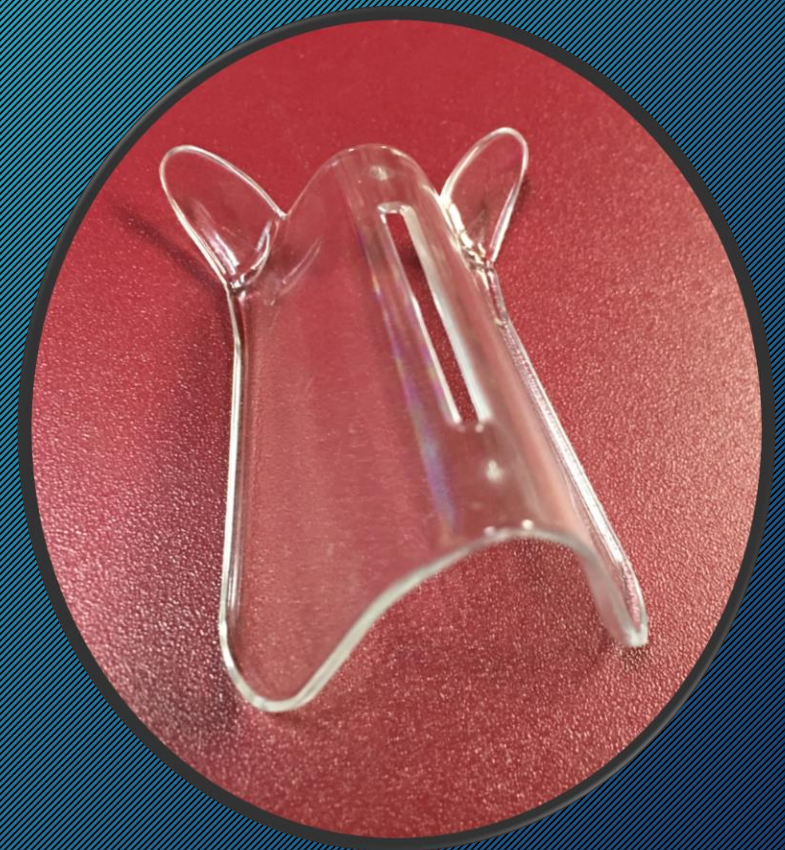
- 55 year old female. No significant medical history
- Aquamid injectable rhinoplasty 10 years ago. She was happy with the result back then
- Few years later she wanted a higher bridge and underwent surgical rhinoplasty using costal cartilage. Aquamid was removed at the time. She wasn't happy with the 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 3<sup>rd</sup> operation to correct her puffy nose!

# CASE STUDY



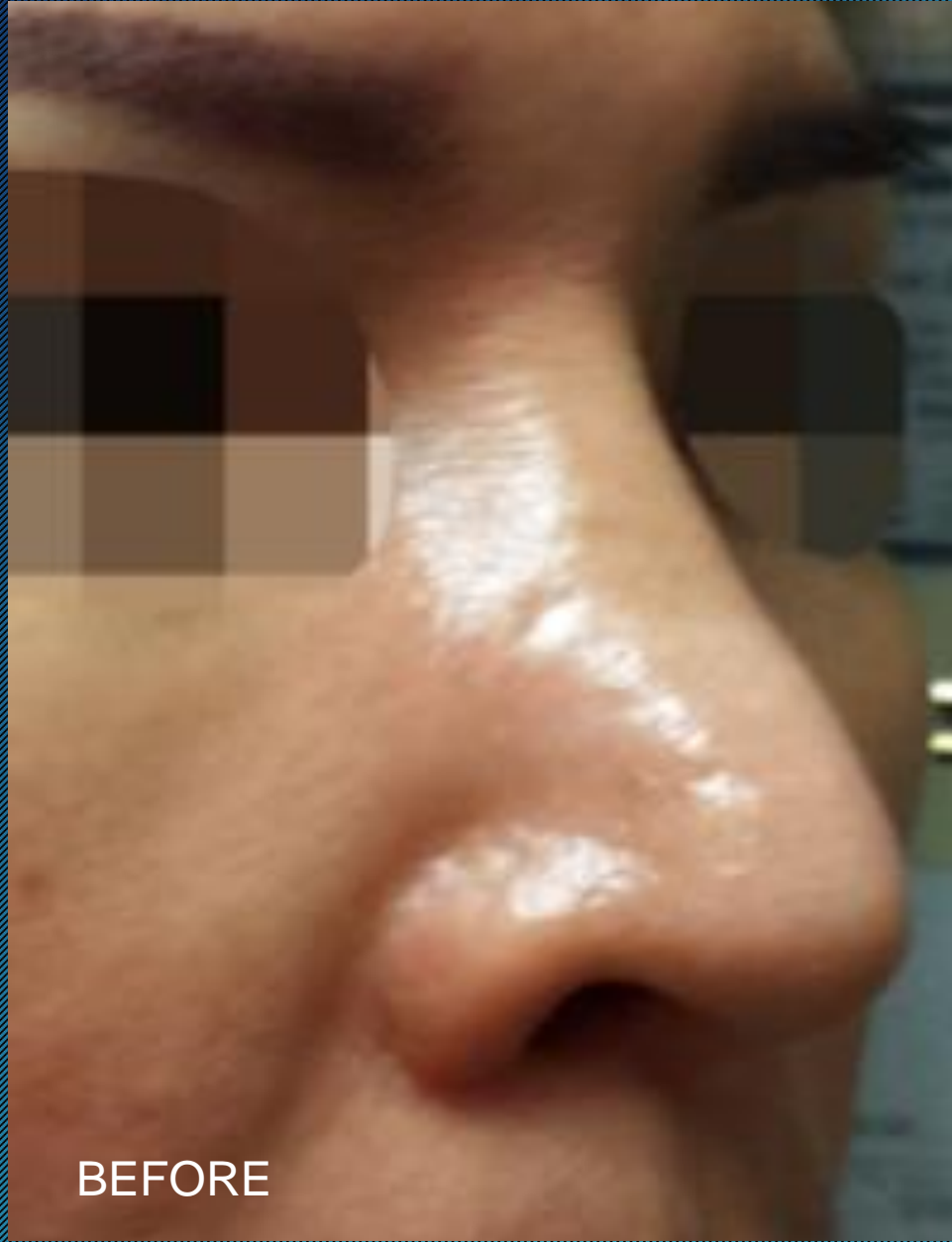
We realised that her concerns were about her skin-soft tissue envelope - not nasal structure!

We didn't offer her an operation, but this →



RESULT





BEFORE



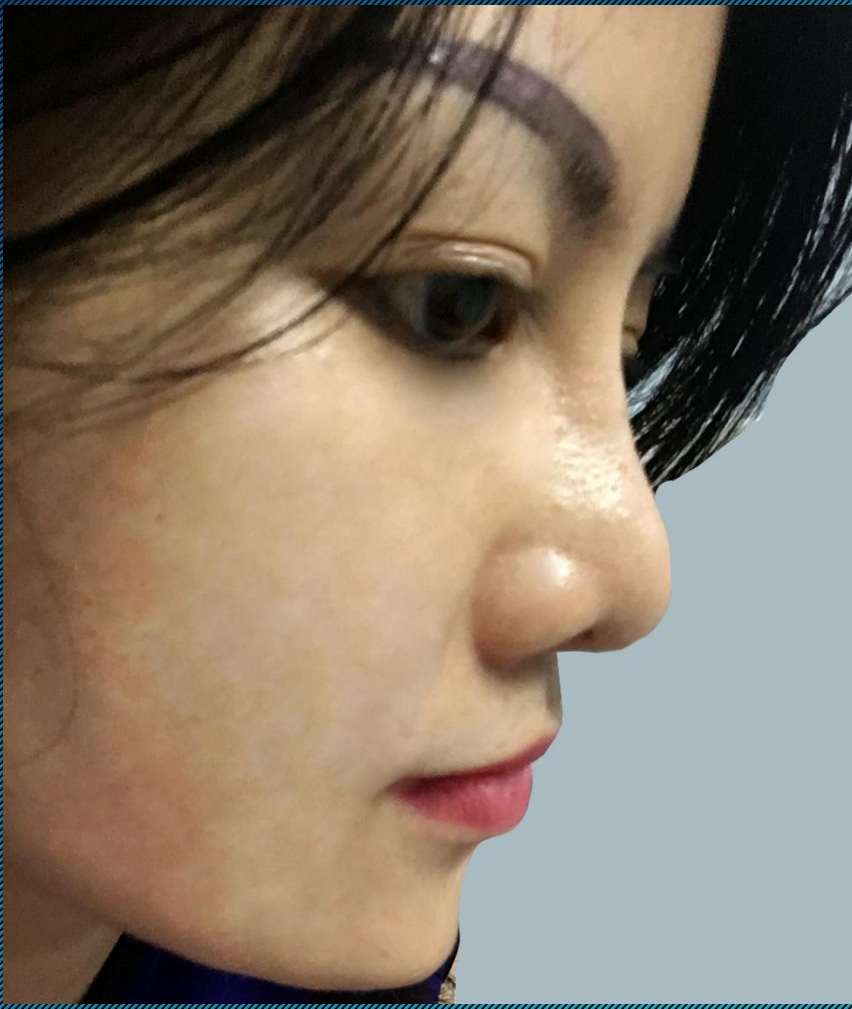
AFTER

RESULT



RESULT

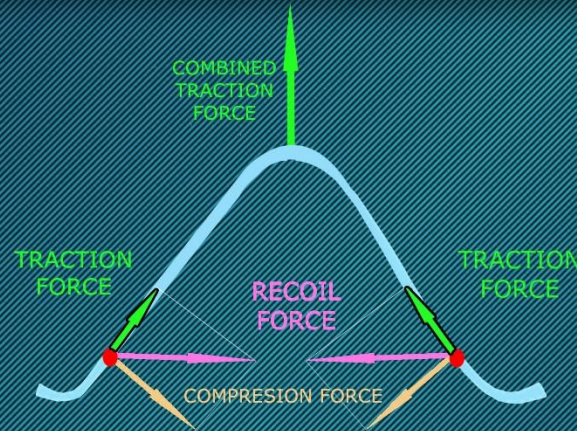
# CASE STUDY NUMBER 2



# 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



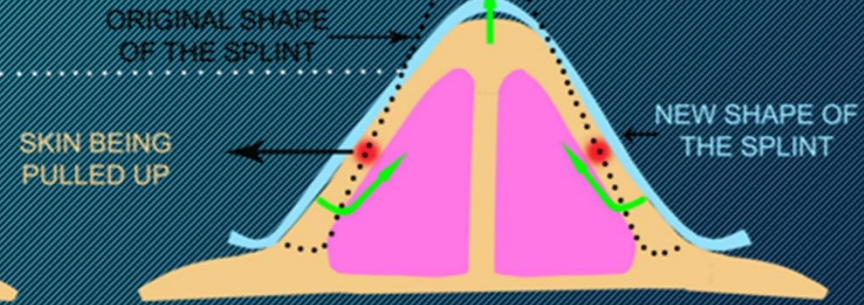
TRACTION FORCE IS CREATED BECAUSE THE SPLINT IS TRYING TO RETURN TO ITS ORIGINAL SHAPE WHILE BEING WORN



ORIGINAL SHAPE OF SPLINT



ORIGINAL SHAPE OF THE NOSE



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



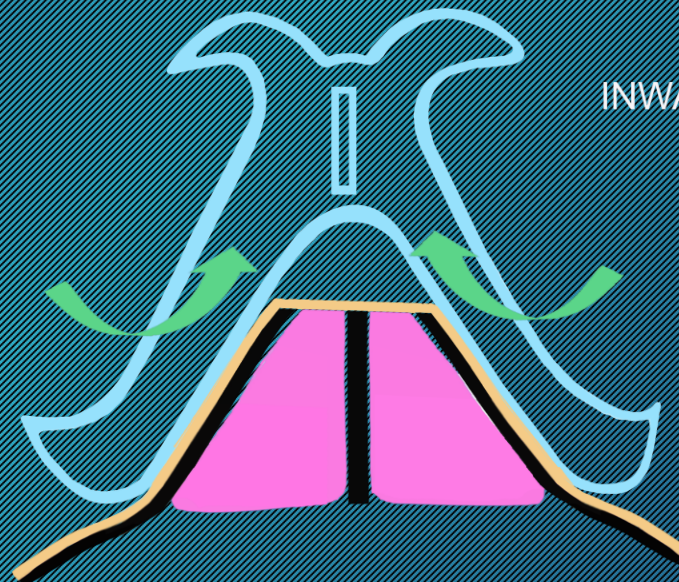
## Common causes:

Greenstick cephalic fracture during osteotomies.

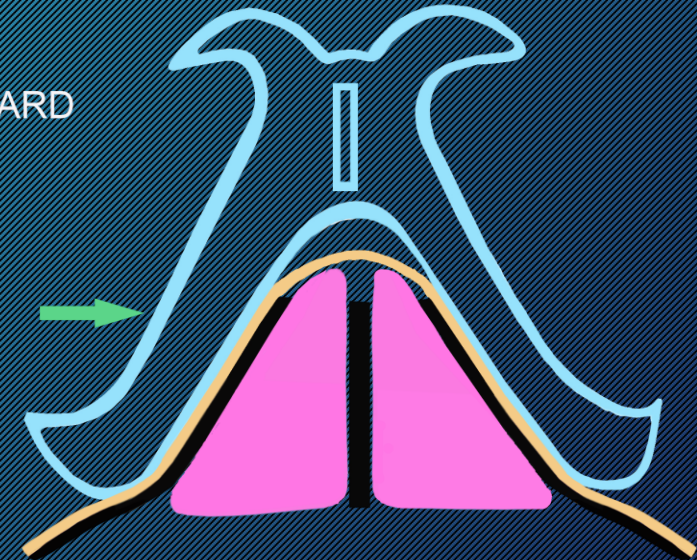
Inadequate mobilisation of the fractured segments medially

Overzealous nasal packing

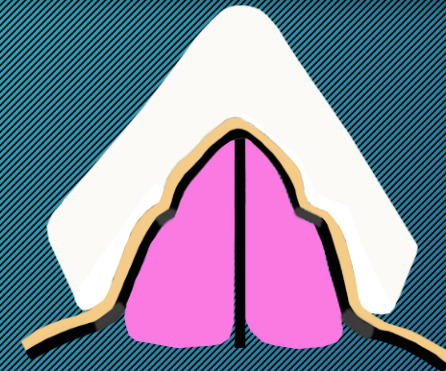
**The use of Le Med Nasal Splint will aid with the correction**



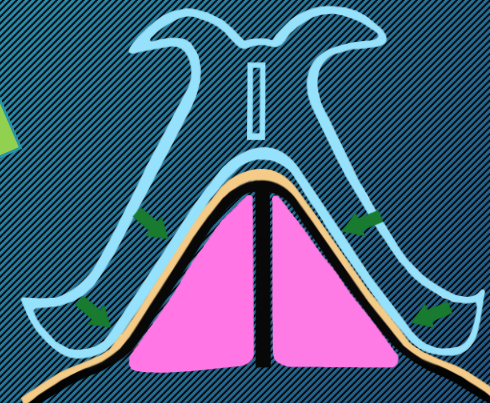
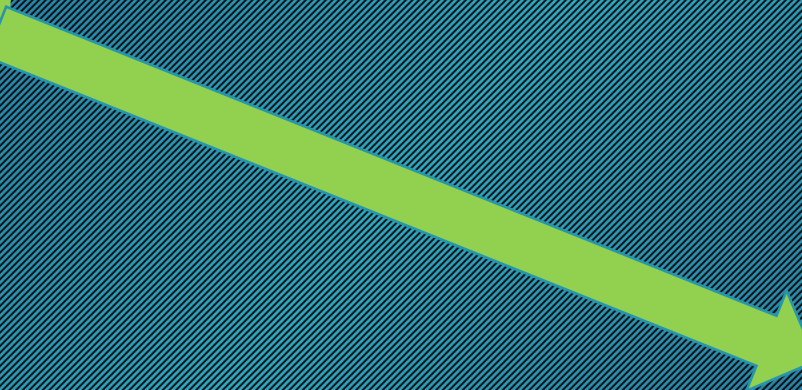
INWARD AND UPWARD  
FORCE  
MINIMISED  
OPEN ROOF  
DEFORMITY



# “STEP” DEFORMITY



POSSIBLE OUTCOME  
WITH  
CONVENTIONAL  
SPLINT



POSSIBLE OUTCOME  
WITH  
LE MED NASAL SPLINT

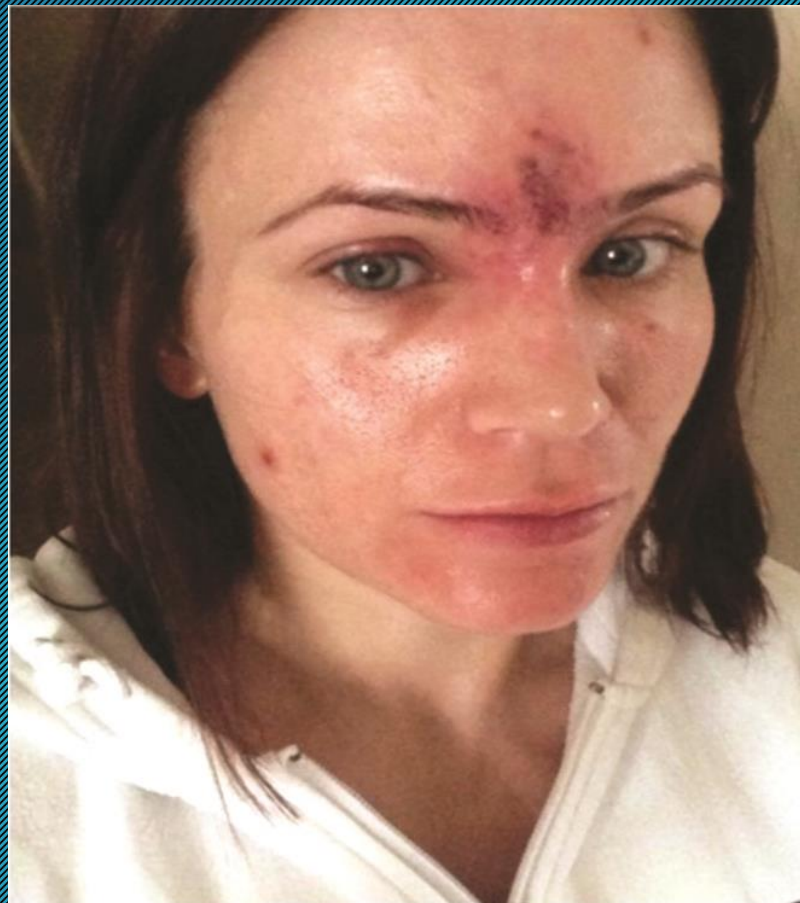
This deformity is due to a single lateral osteotomy too far medial to the nasofacial groove. Repeating the osteotomy at the right level will help to correct the problem

**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.**

# 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

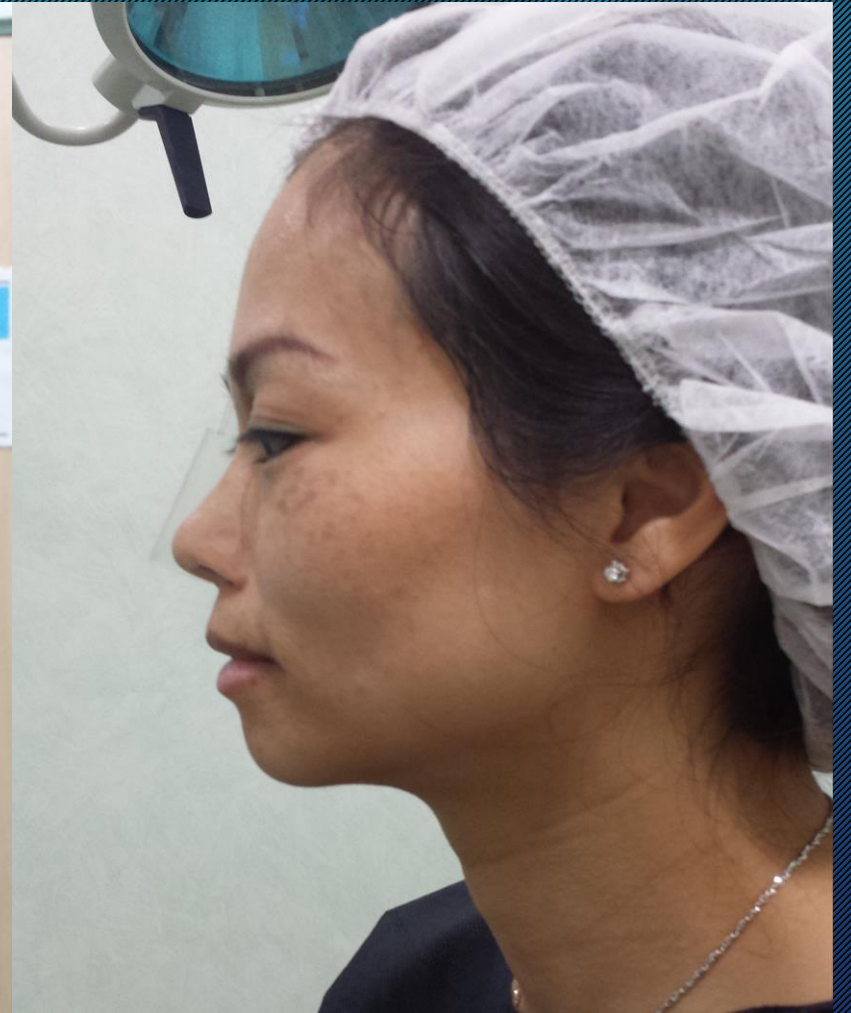


**Thermoplastic Nasal Splint**

# MARKET AVAILABLE



# 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

# COMPARISONS



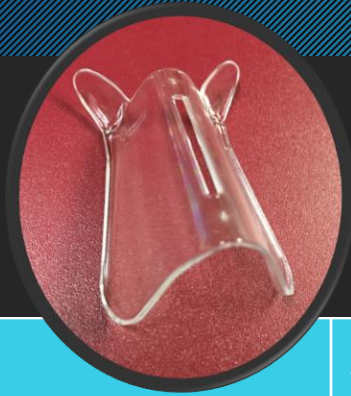
FEATURES	LE MED	ALUMINIUM	THERMO- PLASTIC	PLASTER
CAN BE APPLIED BY PATIENT	YES	NO	NO	NO
MOULDABLE	YES, <small>AUTOMATIC</small>	NO	YES	YES
RESHAPE THE NOSE	YES	NO	NO	NO
GENTLE COMPRESSION FORCE & UNIQUE TRACTION FORCE	YES	NO	NO	NO
REDUCE SWELLING AND BLEEDING	YES	NO	NO	NO
REDUCE POST OP PAIN	YES	NO	NO	NO
DIRECT INSPECTION OF SKIN	YES	NO	NO	NO
PREVENT AND CORRECT MALPOSITION OF FILLER	YES	NO	NO	NO
PREVENT AND CORRECT MALUNION OF FRACTURED NASAL BONE	YES	NO	NO	NO

# COMPARISONS



FEATURES	LE MED	ALUMINIUM	THERMO-PLASTIC	PLASTER
ERGONOMIC	YES	NO	YES	YES
ROLLED AND ROUNDED EDGES	YES	NO	NO	NO
VENTILATION	YES	NO	NO	NO
WATERPROOF	YES	NO	NO	NO
INVISIBLE	YES	NO	NO	NO
ENHANCE COMPLIANCE	YES	NO	NO	NO
TIME EFFICIENT	YES	NO	NO	NO
INCLUDES DORSAL PAD	YES	YES	NO	NO
AVOID EXTERNAL TAPPING	YES	YES	NO	NO

# COMPARISONS



FEATURES	LE MED	ALUMINIUM	THERMOPLASTIC	PLASTER
BECOMES LOOSE WHEN ODEMA SUSIDES	NO, IT MAINTAINS CONSTANT GRIP THE WHOLE TIME	YES, NEEDS NEW ONE TO REPLACE THE LOOSE ONE	YES, NEEDS NEW ONE TO REPLACE THE LOOSE ONE	YES, NEEDS NEW ONE TO REPLACE THE LOOSE ONE
RELATIVELY LOW COST	YES	NO	NO	NO

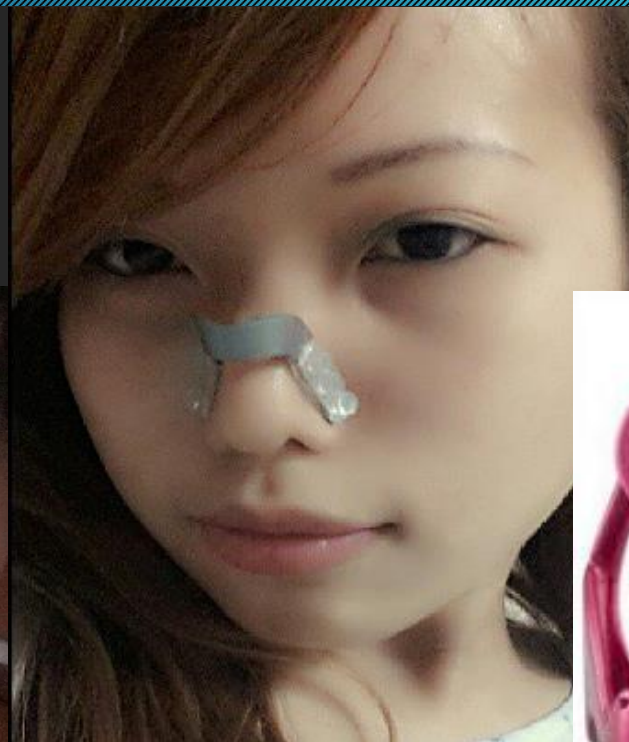
# TOP 5 COSMETIC PROCEDURES



	2000	2005	2010	2011	2012	2013	2014	2015	2016
Breast Augmentation	212,500	291,000	296,203	307,180	286,274	290,224	286,254	279,143	290,467
Nose Reshaping	389,155	298,000	252,216	243,772	242,684	221,053	217,124	217,979	223,018
Liposuction	354,015	324,000	203,106	204,702	202,128	215,641	210,552	222,051	235,237
Eyelid Surgery	327,514	231,000	208,764	196,286	204,015	119,817	206,509	203,934	209,020
Facelift	133,856		112,955	119,026	126,320	133,320	128,226	125,711	131,106
Total	1,419,040	1,146,005	1,073,244	1,070,966	1,061,421	980,055	1,048,665	1,048,818	1,088,848

Source: AMERICAN SOCIETY OF PLASTIC SURGEONS

# OTHER NASAL SPLINTS



LE MED NASAL SPLINT



Thank You!