



**DCIA FREE FLAP FOR MANDIBULAR  
RECONSTRUCTION IN NORTH WALES 2000-2010**

# INTRODUCTION

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- ✘ Resection of the mandible is done for various reasons. Defect can fall into four categories : Isolated bone, compound, composite and en bloc defects
- ✘ Reconstruction of defect is vital for restoration of mastication, speech and esthetics
- ✘ Various options available for reconstruction of mandible are:
  - Bone grafts
  - Alloplastic implants
  - Vascularised bone flaps:
    - Fibula free flap
    - Radial forearm free flap
    - Scapula free flap
    - Metatarsal free flap
    - Iliac free flap
- ✘ DCIA free flap (first described by Urken et al in 1989 ) with its unique size, shape and mandible matching curvature, has made it the first choice as a donor site for mandibular reconstruction.

# PATIENTS AND METHODS

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- ✘ Retrospective review over a 10 year period (2000-2010):
- ✘ 78 patients - osteocutaneous free flaps

Free fibula flap – 14

DCIA Free flap – 64

maxilla – 10

mandible - 54



# PATIENTS AND METHODS

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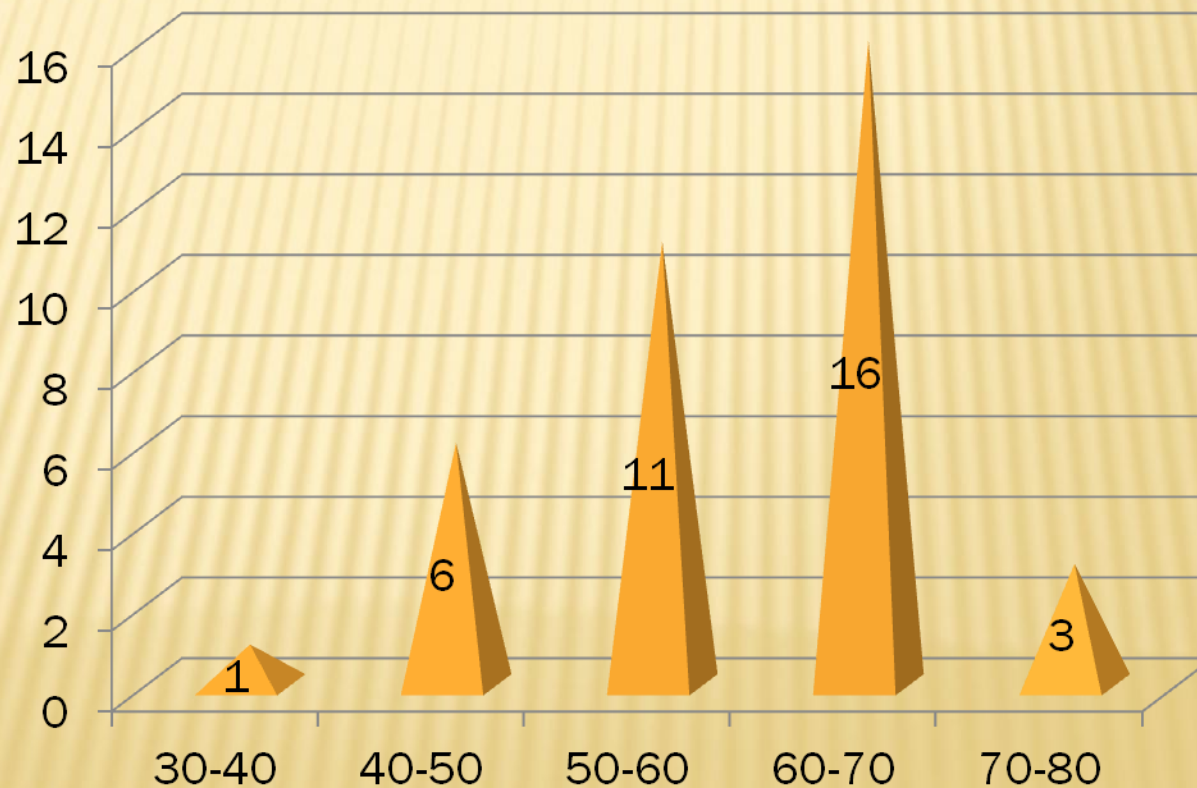
- ✘ Age of the patient at the time of the surgery
- ✘ M:F
- ✘ Reasons for reconstruction
- ✘ Site of the mandible defect
- ✘ Length of the flap used
- ✘ Average height of the flap used
- ✘ No of osteotomies performed
- ✘ Types of fixation device used
- ✘ Overall time of the operation
- ✘ Flap success rate

(Most of the data collected from departmental oncology data base and Hospital computer system. Of these 54 cases 16 patients data was not included in the study)

# RESULTS

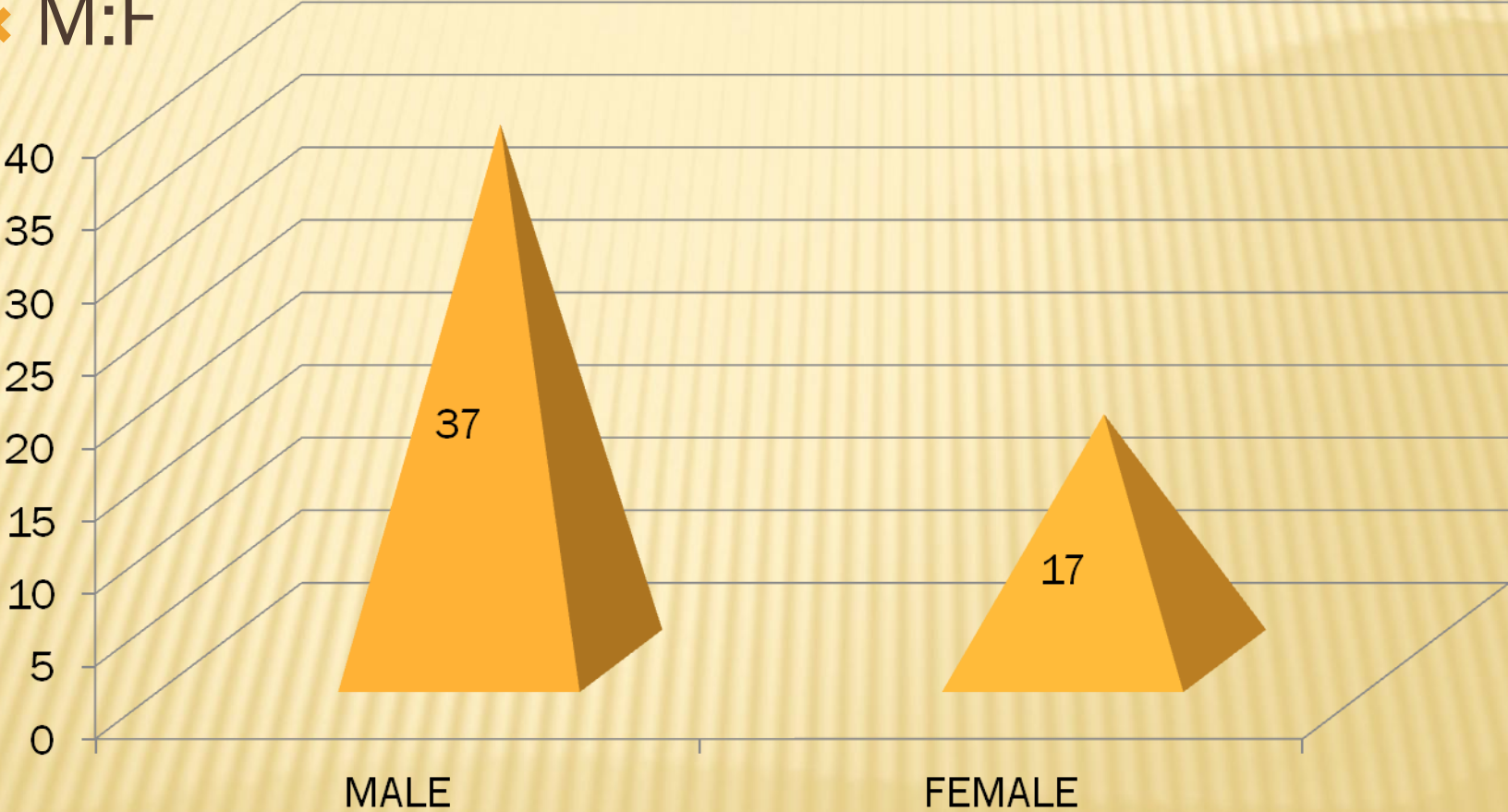
✘ Patient age at the time of the operation:

Age range from 38 to 73y



# RESULTS

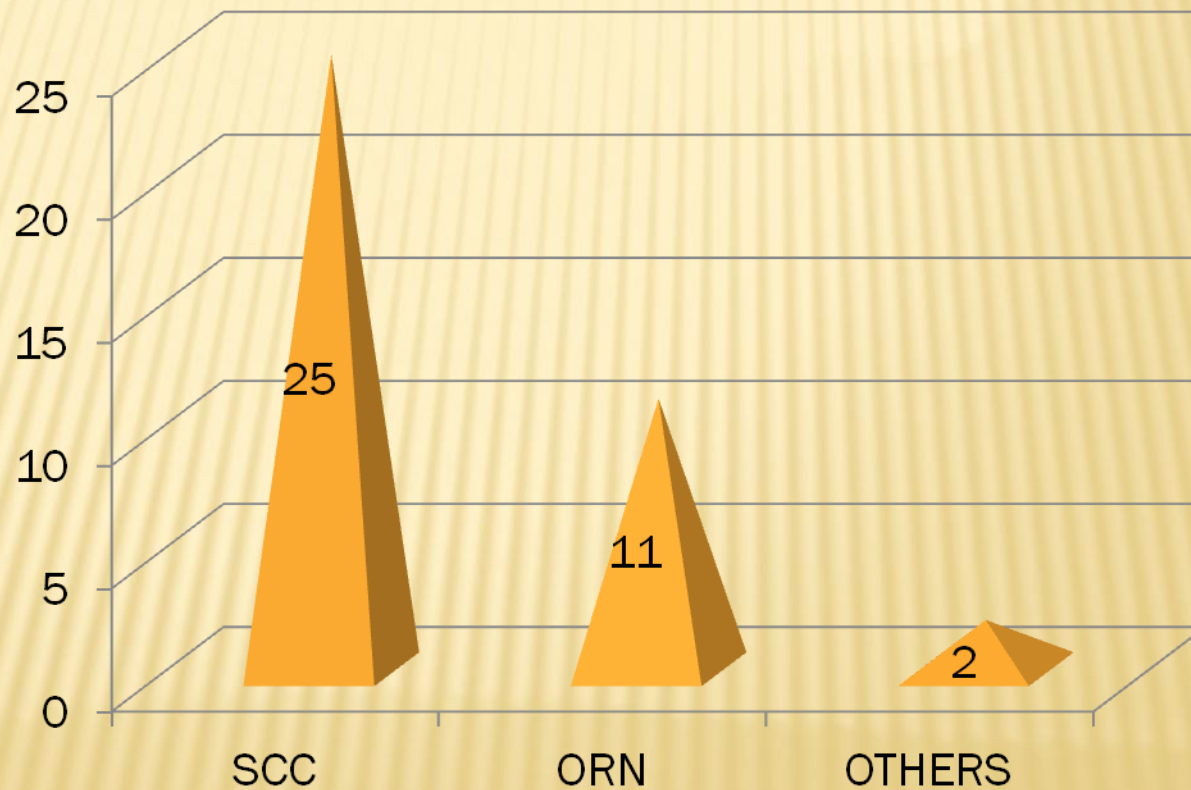
✕ M:F



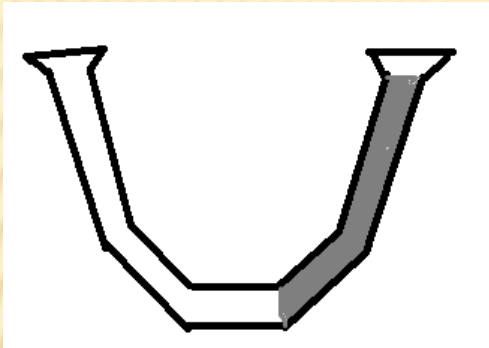


# RESULTS

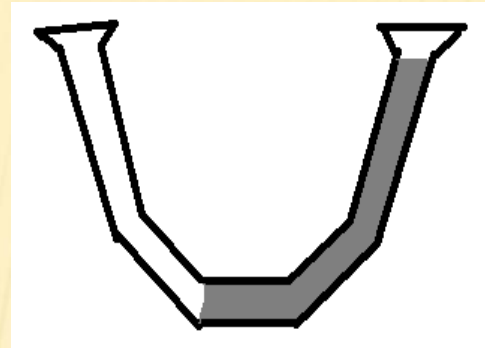
## ✘ Reasons for reconstructions



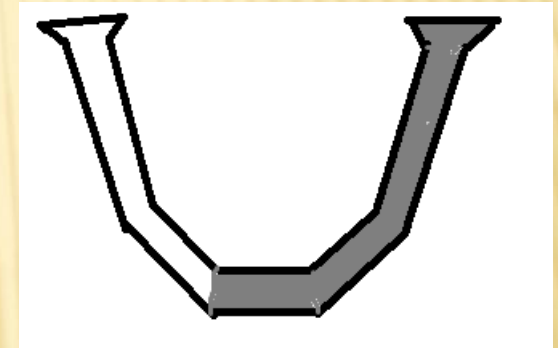
# RESULTS



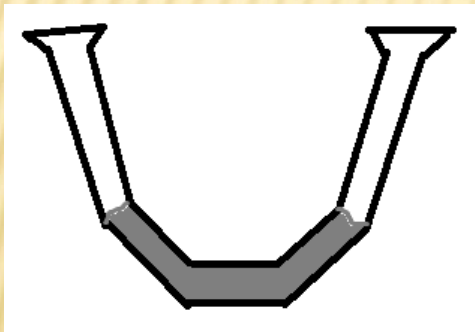
L - 25



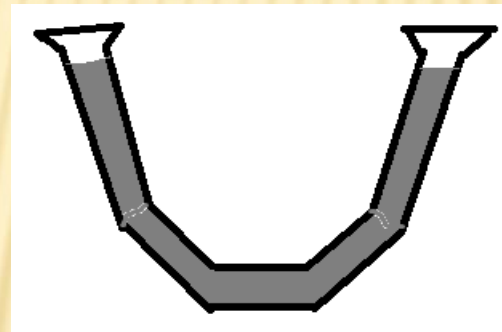
LC - 7



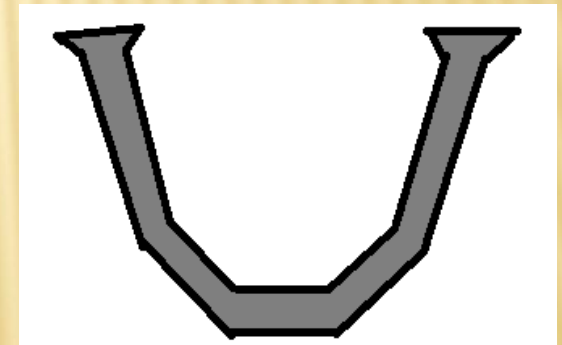
H - 4



C - 1



LCL - 1



HH - 0

Jewer classification system. L - Lateral segment without condyle, C - Central segment including canine teeth, H - Hemimandible that includes condyle



# RESULTS

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- × Osteotomies performed:

  - single - 5

  - Two - 1

  - None - 32

- × Fixation device used:

  - UniLock Reconstruction plates - 29

  - 2.7mm leibinger mini plates - 6

  - combination of both plates - 2

  - B/L TMJ Prosthesis with mini plates - 1

- × Operation time:

Minimum	Average	Maximum
6:30	11:00	14:10

# RESULTS

- ✘ Bone length: Measured by counting number of holes in reconstruction plate on the flap in digital post op OPG X-rays

minimal	average	maximum
3.7cm	7.6cm	11.4cm

- ✘ Bone height: standardised measuring ruler used on all post operative OPG X-rays

Minimal	average	maximum
7.5mm	23mm	38mm

- ✘ In all these patients donor site is closed with prolene mesh.
- ✘ Flaps success rate overall was 61 out of 64 (95%).

# CONCLUSION

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- ✘ High success rate of the DCIA free flap
- ✘ Most of the complex defects of the mandible can be reconstructed with DCIA free flap as it provides sufficient length, height, good quality of bone and we can perform osteotomies without compromising the vascularity of the flap.
- ✘ With the two team approach operating time can be significantly reduced
- ✘ Limitations of study:
  - we are currently working on various ways to conduct the study into the areas like donor site morbidity.
  - Need of more long term prospective study with regards to assessment of overall function, esthetics and complications.



**THANK YOU**