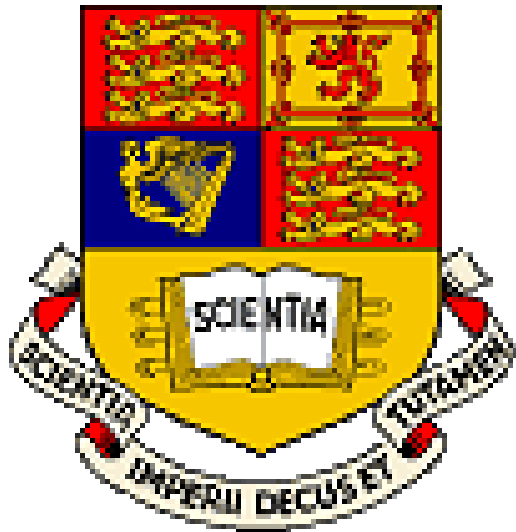


TREATMENT OF ATROPHIC ACNE SCARRING – Dermaroller vs Dermapen



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AIMS OF THE STUDY

- To compare the safety and efficacy of the Dermaroller and Dermapen in treating atrophic acne scarring
- Specifically compare:
 - How well tolerated
 - How easy for the operator to use
 - How long was the downtime
 - How effective in improving scarring using subjective and objective measures

PERCUTANEOUS COLLAGEN INDUCTION

Dermaroller

- Stainless steel acupuncture needles
- 0.25mm needle gauge
- 1.5mm needle length



PERCUTANEOUS COLLAGEN INDUCTION

Dermapen

- Stainless steel acupuncture needles
- 0.33mm needle gauge
- 0.5-2.5mm needle length
- Speed from 1 (25 to 30/sec) to 7 (85 to 90/sec)



PCI PROTOCOL



Before



Apply EMLA Cream

DERMAROLLER PROTOCOL



Roll 4 times vertically, horizontally and diagonally.

This results in about 250 channels/cm².



No need to apply high pressure.

Aim to achieve pinpoint bleeding.

DERMAPEN PROTOCOL



*Initial circular motion, then
horizontal and vertical four times.
This results in over 80 channels/sec.*

STUDY DESIGN

- Randomised trial in patients with atrophic acne scarring who had at least one treatment with the Dermaroller
- Randomisation using a computer-generated randomisation list
- Group A – further treatment with the Dermaroller and assessment at three months
- Group B – treatment with the Dermapen and assessment at three months

STUDY DESIGN

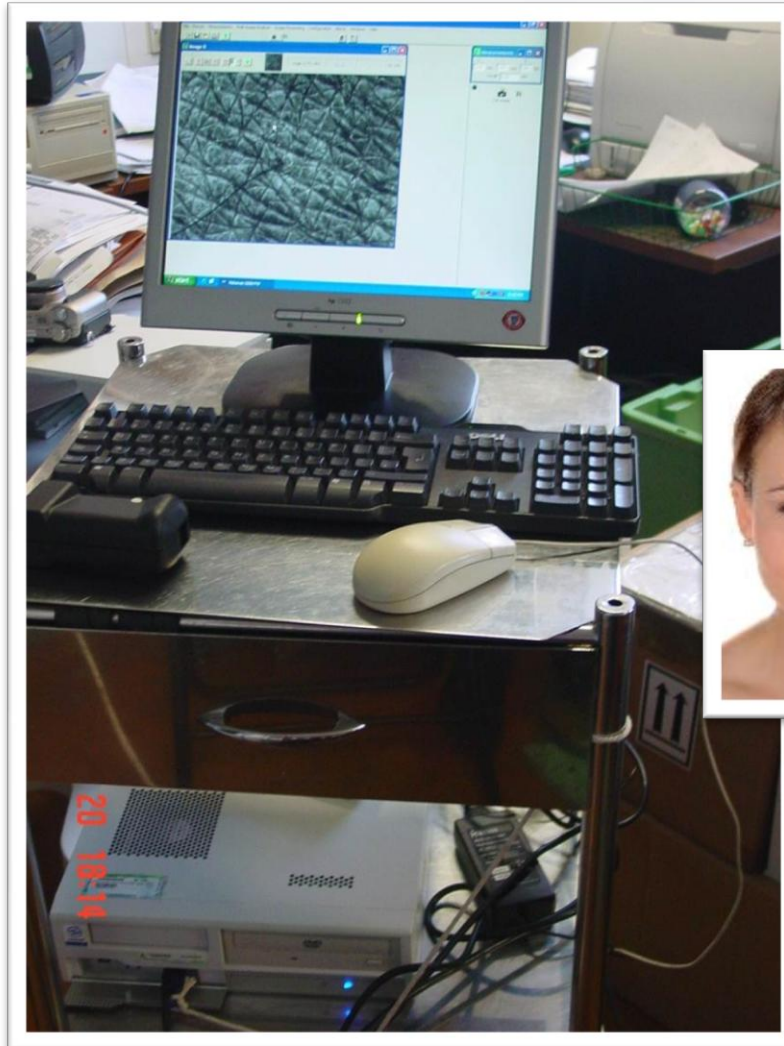
- Day 0
 - Recruitment
 - Randomisation
 - Identify scar to examine – Visioscan
 - Treatment
- Day 84
 - Patient and operator questionnaire
 - Visioscan

STUDY DESIGN

- 60 patients were recruited into this study
- One rolling scar was identified on each patient, marked and photographed
- Scar was scanned using the Visioscan VC98
- EMLA cream was applied and covered with polythene for one hour
- EMLA removed and skin swabbed with alcohol
- Filast serum was applied to the skin in a thin layer



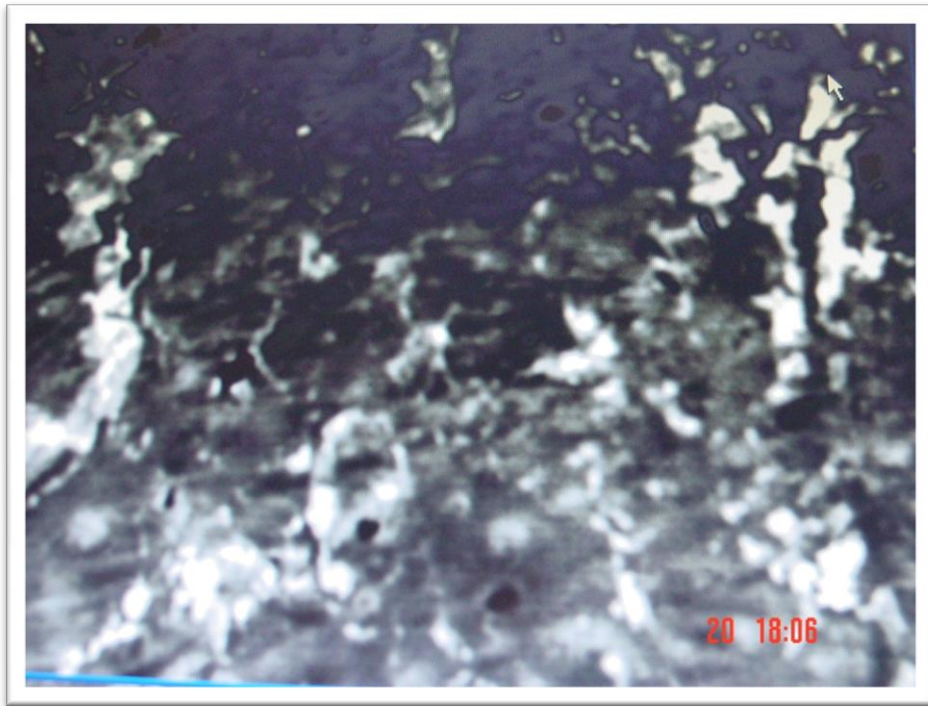
VISIOSCAN



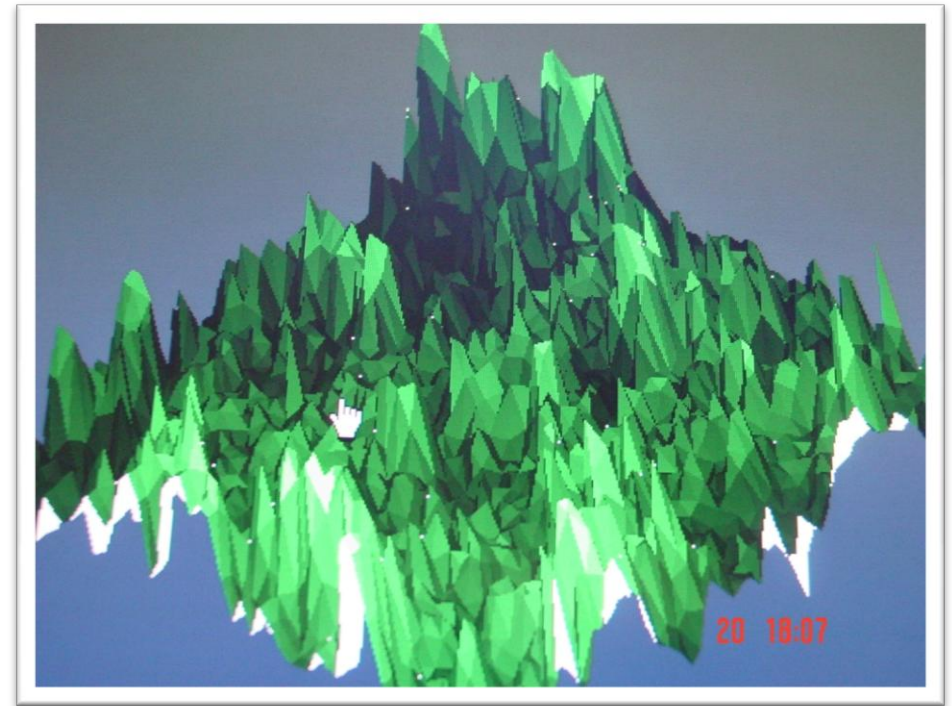
*UV-A light video camera
with high resolution*



VISIOSCAN



UV Image



3D Reconstruction

Using Visioscan software, volume of the scar was calculated.

STUDY DESIGN

- Dermaroller was performed rolling four times, horizontally, diagonally and vertically
- Dermapen was set at 1.5mm and the face treated with circular motion, then horizontally and then vertically four times at speed seven.
- Blood was wiped away with sterile gauze and the skin washed with sterile saline.
- Cold packs were applied for five minutes.





PATIENT QUESTIONNAIRE

- Patients were asked to fill out a questionnaire following treatment comparing pain/discomfort with previous Dermaroller treatment using a five point scale:
 - 1 = Much less painful
 - 2 = Less painful
 - 3 = Same
 - 4 = More painful
 - 5 = Much more painful

OPERATOR QUESTIONNAIRE

- Operator was asked to assess ease of use and versatility compared to the Dermaroller in those having Dermapen, using a five point scale:
 - 1 = Very much easier
 - 2 = Easier
 - 3 = Same
 - 4 = More difficult
 - 5 = Much more difficult

PATIENT QUESTIONNAIRE

- At visit two, patients were asked how long the downtime was for their previous treatment in days.
- Asked to assess improvement in their scarring using a five point scale:
 - 1 = Good improvement
 - 2 = Slight improvement
 - 3 = No improvement
 - 4 = Slightly worse
 - 5 = Much worse

OPERATOR QUESTIONNAIRE

- Operator was asked to assess improvement in scarring using a five point scale:
 - 1 = Good improvement
 - 2 = Slight improvement
 - 3 = No improvement
 - 4 = Slightly worse
 - 5 = Much worse

VISIOSCAN

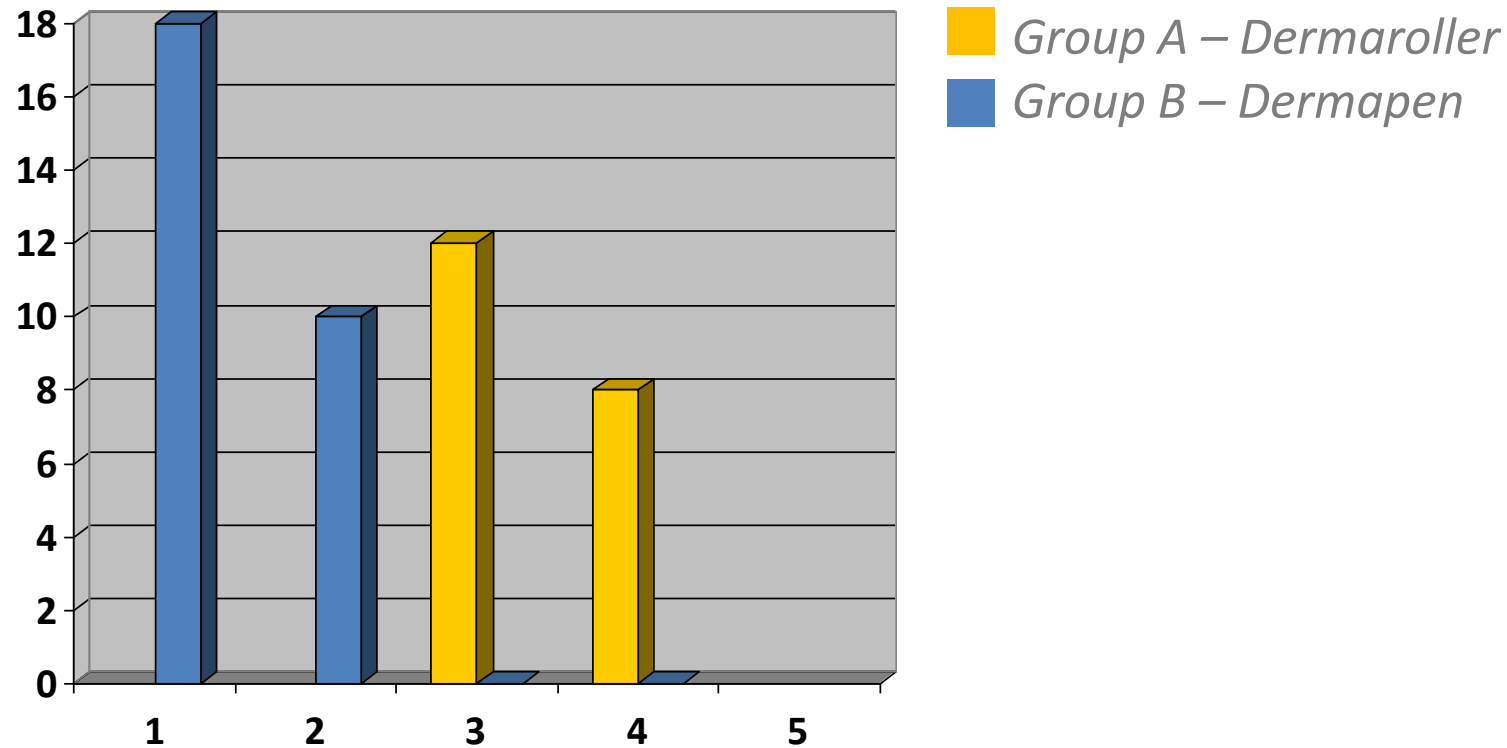
- Using the Visioscan software, the volume of the scar was calculated for each scar
- The percentage reduction in volume was assessed at visit two

RESULTS

- 60 patients were recruited into the study
- 48 completed visits one and two (20 in group A and 28 in group B)
- Eight patients lost to follow up, four patients have yet to attend the final visit due to delays in starting the study

RESULTS

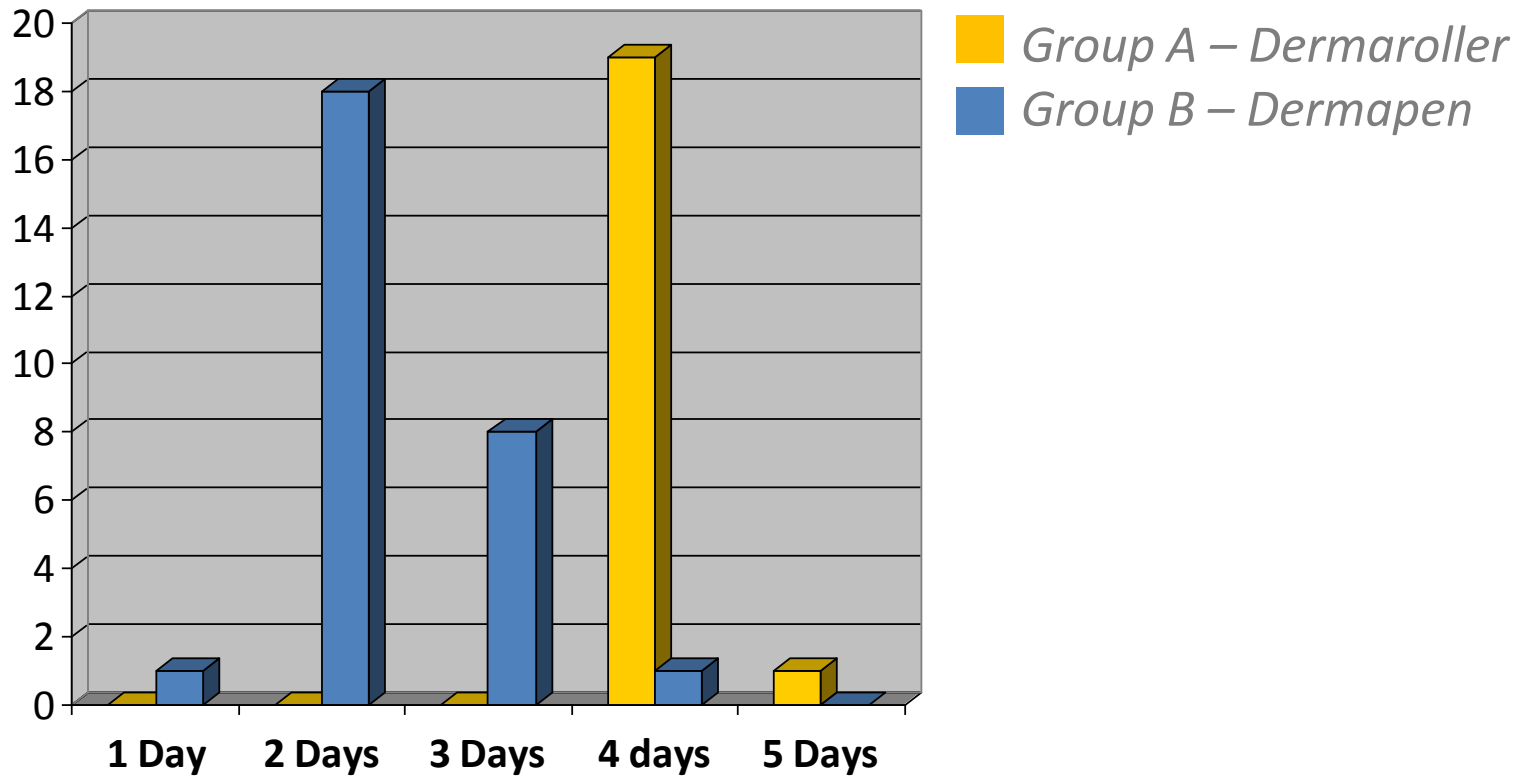
Patient Assessment of Discomfort – Visit 3



1 = Much less painful 5 = Much more painful

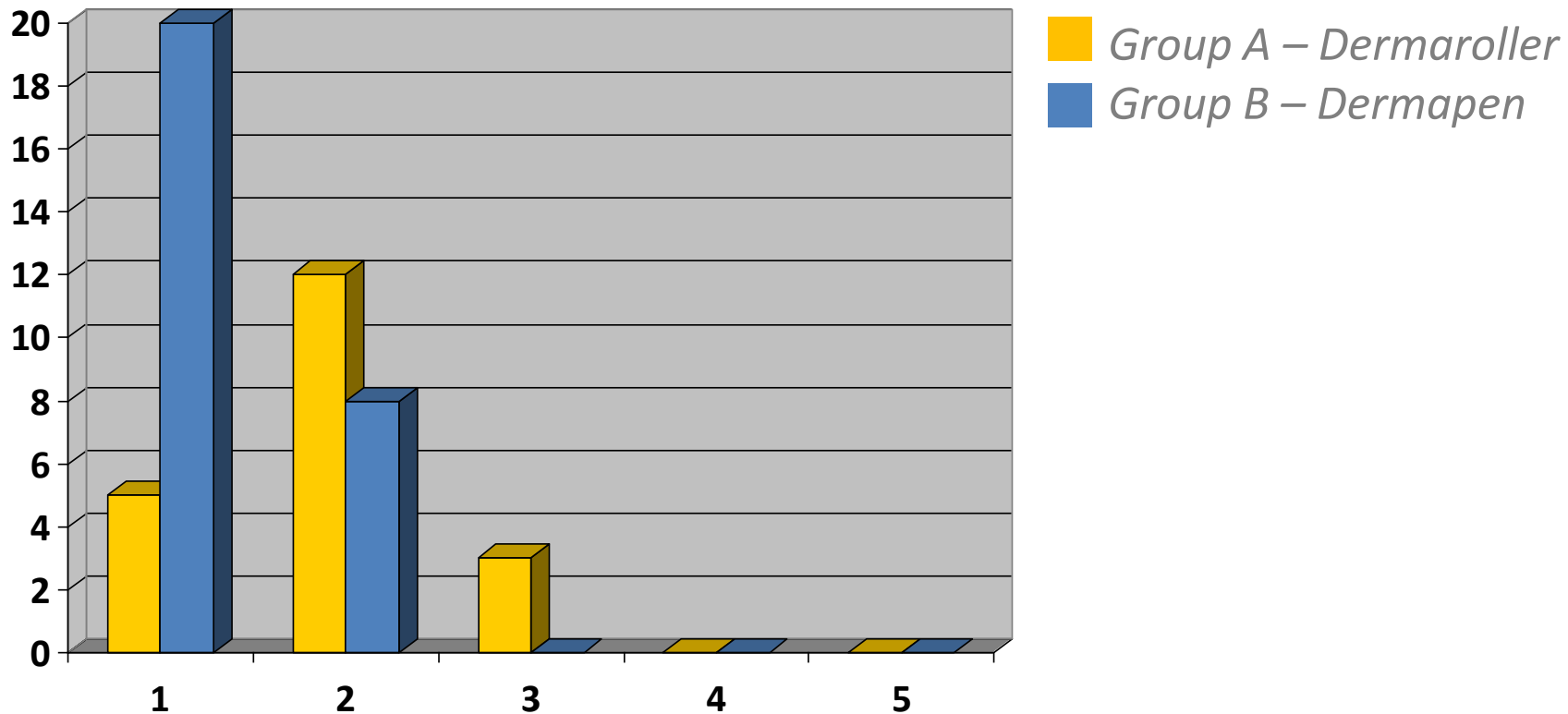
RESULTS

Downtime in Days at Visit 3



RESULTS

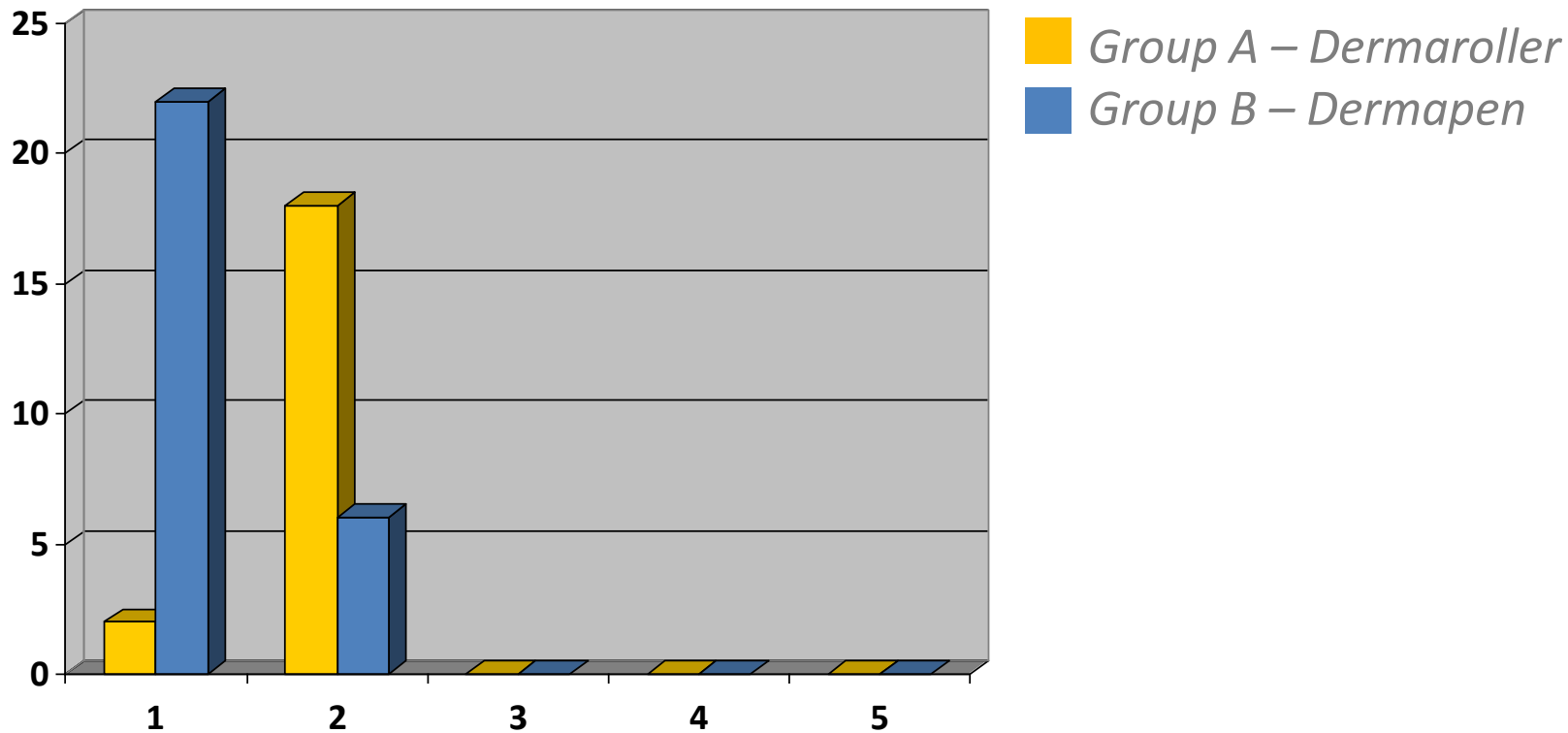
Improvement Assessed By Patient at Visit 3



1 = Much Improved 3 = No Change 5 = Much Worse

RESULTS

Improvement Assessed By Operator



1 = Much Improved 3 = No Change 5 = Much Worse

VISIOSCAN

% Reduction in Volume of Assessed Scar

- Group A – Dermaroller
 - 20 patients
 - %Reduction = 29.1 ± 4.82
- Group B – Dermapen
 - 28 patients
 - % Reduction = 42 ± 7.97

CONCLUSIONS

Dermapen has significant advantages over Dermaroller

- Easier to use and more versatile in treating areas such as the upper lip and nose
- Less painful and better tolerated by the patient
- Less downtime
- More effective in improving atrophic acne scars

RESULTS



Before

After

RESULTS



Before



After

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