History of Laser Sweat Ablation
1. Mark out area of sweat glands
2. Inject tumescent local anaesthetic
3. Make two 5mm incisions at 90° to one another
4. Blunt Dissection using a tissue separator
5. Suction curettage of the deep dermis
6. Laser ablation using a Fotona XP2 Nd:YAG laser with a 600µm fibre

Alternatives to LSA
- Endoscopic Thoracic Sympathectomy (ETS)
  - Permanent
  - General anaesthetic
  - Affects face and hands
- Botulinum toxin type-A injections
  - Simple injections
  - Lasts a 6 – 9 months
  - Expensive (cumulatively)

Tests to measure sweating
- Quantitative
  A ‘sweat test’ is carried out which involves placing 3 pre-weighed cotton wool balls under each axilla and re-weighing them after one hour. The difference in weight being due to the amount of sweat produced
- Qualitative
  Minor’s iodine and starch test allows us to identify the location and spread of the sweat glands

Changes made to the LSA procedure
- From patient 2: Switch from Coleman ended laser cannula to an open-ended cannula and the power of the laser was reduced from 20W QCW to 10W QCW
- From patient 3: A cooler was introduced to reduce the chances of skin breakdown
- From patient 20: Suction curettage was performed prior to the laser ablation, whilst for the first 19 patients, the laser was used before the suction curettage
- From patient 26: Pull back of laser made faster from 1.28s/cm to 0.77s/cm
- From patient 41: A ‘sweeping motion’ of the tissue separator was introduced to separate the dermis from any remaining attached structures

Results
- 46 patients (M:F 24:22)
- Ages 18 – 56 years
- 21 returned for full follow-up
Mean sweat reduction (All patients) = 68.3%
Mean sweat reduction (moderate and severe, >0.3g/hr) = 82.4%

Complications
- 10/46 patients experienced some form of skin breakdown
- 1 patient has returned for two further LSA procedures
- Reduction in sensation of skin
- Reduced hair growth