

Institute of Surgical Research „C” Module – Advanced Medical Skills

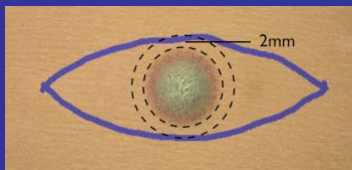
C1-2 MODULE – „Minor surgical skills”
Removing encapsulated structures
– **Advanced suturing:**
Enterotomy, bowel anastomosis

C3-4 MODULE – Operations in practice

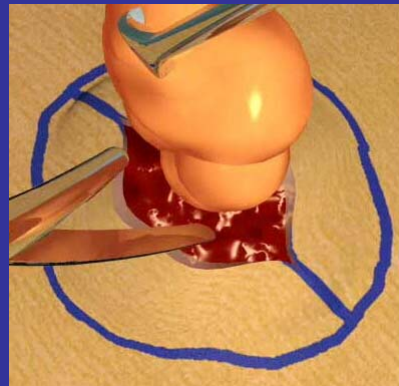
C5-6 MODULE – Minimally invasive surgery



EXCISIONS ON THE SKIN



Ellipse excision



Excisions under the skin level

„Minor Skin Procedures”
training program

Bowel anastomosis

Stay stitch

Insert the first two stitches *seromuscularly* into the two opposite ends of the wound.

First layer:

- **Continuous stitches in 3-5 mm distance**
- *seromuscularly*

Second layer:

- **To cover the first suture line with serosa.**
- **The distance between individual stitches is 3-5 mm.**

Schedule of the Practical

Computer Room:

„Minor Skin Procedures“ according to computer program

Operating room:

Entering (cap, mask, footsack): sterile assisted gloving (helped by nurses);
1 assistant and 1 surgeon,

Practical:

1. A/ Ellipse excision: in pairs (8x2),
B/ Encapsulated node or cyst removal;
Closing the wound with Donati type interrupted or intracutaneous continuous sutures;
2. Intestinal enterotomy by diathermy in pairs (8x2), ;
Ex vivo intestinal suture in two layers

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„C” Module – Advanced Medical Skills

C1-2 MODULE – Minor Surgical Skills. Advanced suturing

C3-4 MODULE – Operations in practice

**Abdominal drainage: diagnostic
and therapeutic peritoneal lavage**

Laparotomy

Tracheostomy

**Thoracic drainage: insertion of chest
tube**

C5-6 MODULE – Minimally invasive surgery



Execution of the practical:

1. Teacher's presentation (computer room, ~20 min)
2. Scrubbing, gowning, gloving: 5 students/group
(2-3 x 10 min = 30 min)
3. Students waiting for scrubbing: peritoneal dialysis
in the computer room (1-2 x 4-5 students)
4. 4-6 students/operating table with a teacher
5. Diagnostic peritoneal lavage (20 min)
6. Laparotomy, inspection of abdominal organs,
closing the abdomen (60 min)
7. Tracheostomy (30 min)
8. Chest tubing (20 min)
9. The first group returns to the teaching room to
practise peritoneal dialysis.

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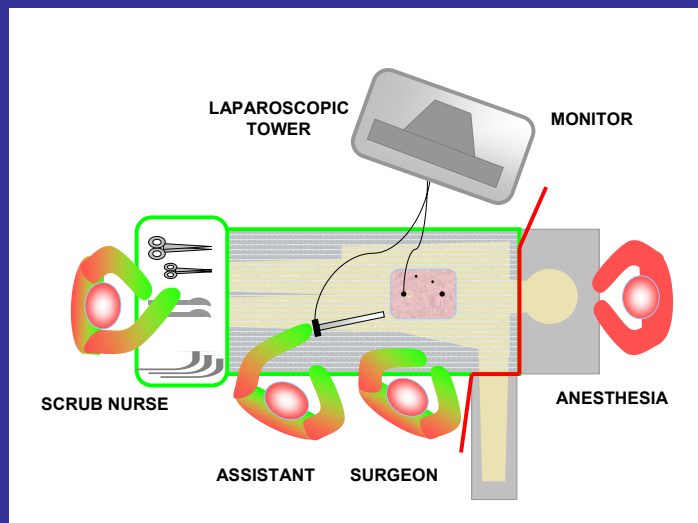
C1-2 MODULE – Minor Surgical Skills. Advanced suturing

C3-4 MODULE – Operations in practice

C5-6 MODULE – Minimally invasive surgery



Setup



Technical difficulties

- Two dimensional approach
- Special requirements of hand coordination (long instruments, limited movement)
- Handling of bleeding
- Need for rinsing/suctioning
- Humidity in a closed cavity
- Tying of knots
- Depth perception by touching
- Training in a box-trainer
- Electrocoagulation
- Special devices
- Warm saline on the optics
- Training in a box-trainer

The „box-trainer“



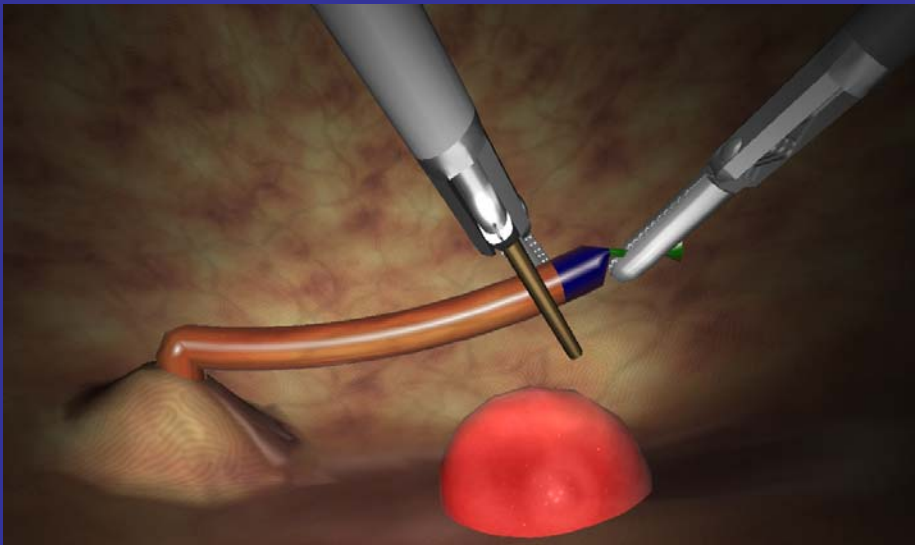
Simulator box used for suturing and tying knots

Training Goals

- Coordination exercises
- Incisions, suturing
- Laparoscopic knotting technique



Laparoscopy in virtual reality



Schedule of the practice

Station I: box-trainer

Station II.: simulator

Station III: knotting
(with 2 instruments)

Students who HAVE
attended microsurgery
(~6) (I)

(II)

(III)

(III)

Students who HAVE NOT
attended microsurgery
(~6) (I)

(II)

(II)

(III)

Students who HAVE NOT
attended microsurgery
(~6) (I)

Statistics of Advanced Medical Skills

	Hungarian	Foreign students
Number of applicants to the course:	89	37
Number of graduates of the course:	88	35
Average grade at practical exam:	4.98	4.45

RESULTS OF THE OPINION POLLS REGARDING THE PRACTICALS:

• Lucidity and usefulness of the lectures:	4.4	4.0
• Theme selection of the practices:	4.9	4.8
• Lucidity and usefulness of presentations introducing the practices:	4.5	4.4
• Utilization of available time:	4.1	3.9
• Organization of the practices:	4.5	4.3
• Possibility of active participation:	4.6	4.4
• Readiness of teachers to help:	4.8	4.9
• Usefulness of teaching tools, models, phantoms:	4.6	4.6
• Usefulness teaching computer programs	4.5	4.8
• Value of the subject in medical education:	4.8	4.8