

Training Course for Advanced Oncologic Laparoscopy

Robotic Urology



Ch.-H. Rochat
Geneva

St Petersbourg
16 February 2006

Urology and mini-invasive surgery

radical prostatectomy

nephrectomy (partial or total)

pyeloplasty

uro-genital prolapse

cystectomy

lymphadenectomy

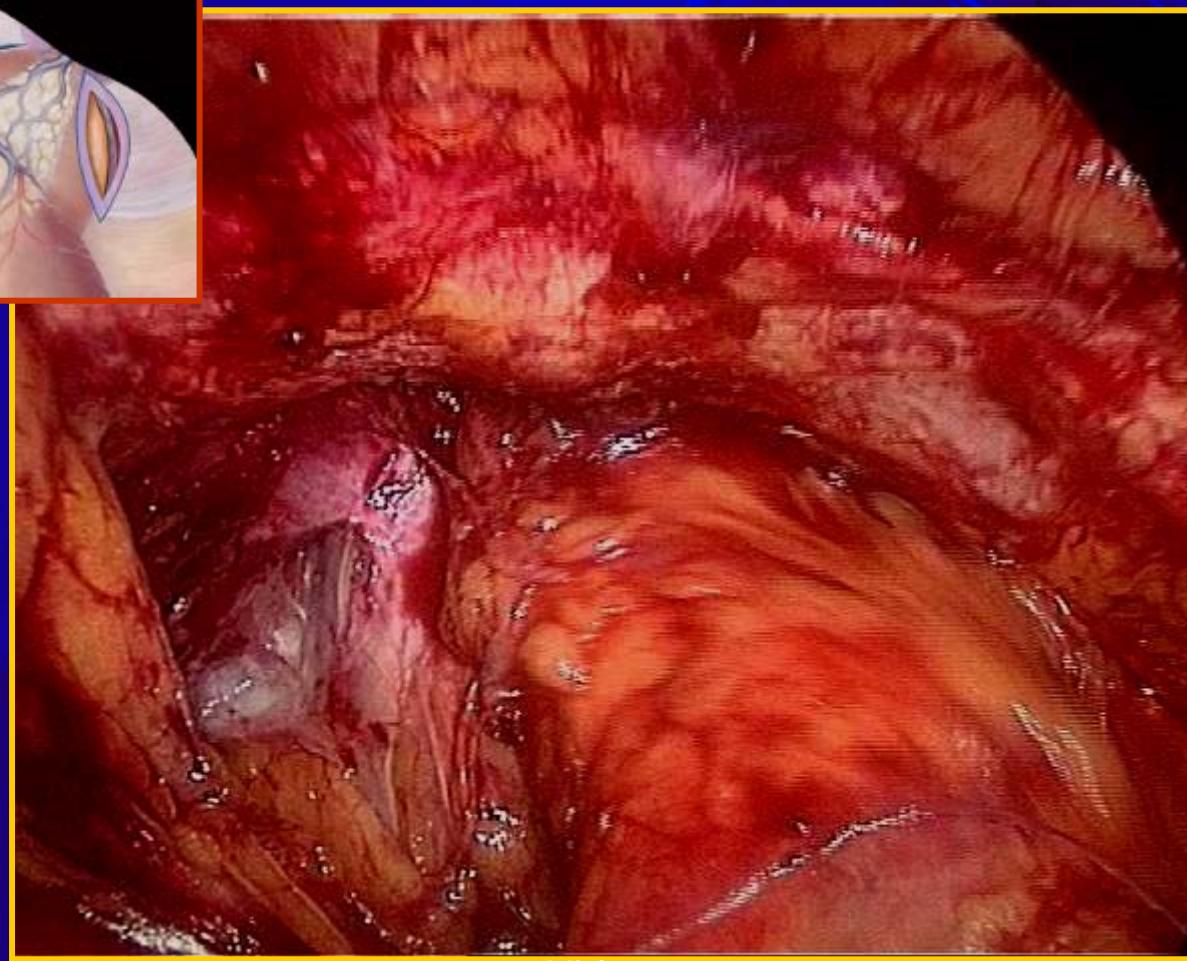
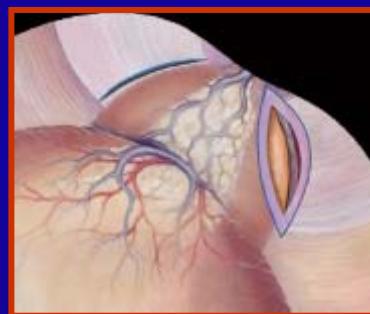
Spermatic vein ligation / ectopic testis

Laparoscopic prostatectomy (LP)

- Sept.1991 First intraperitoneal
WW. Schuessler, U.S.A
- June 1997 First extra-peritoneal
A. Raboy, U.S.A.
- Nov. 1997 French first
R. Gaston, Bordeaux (followed by CC.
Abbou, B. Guillonneau and G. Vallencien,
Paris)
- March 1999 Swiss first
C.H. Rochat, R. Gaston, Geneva
- Dec. 1999 First retrograde extra-peritoneal
P.Dubernard, Lyon

Retrograde extra-peritoneal laparoscopic prostatectomy

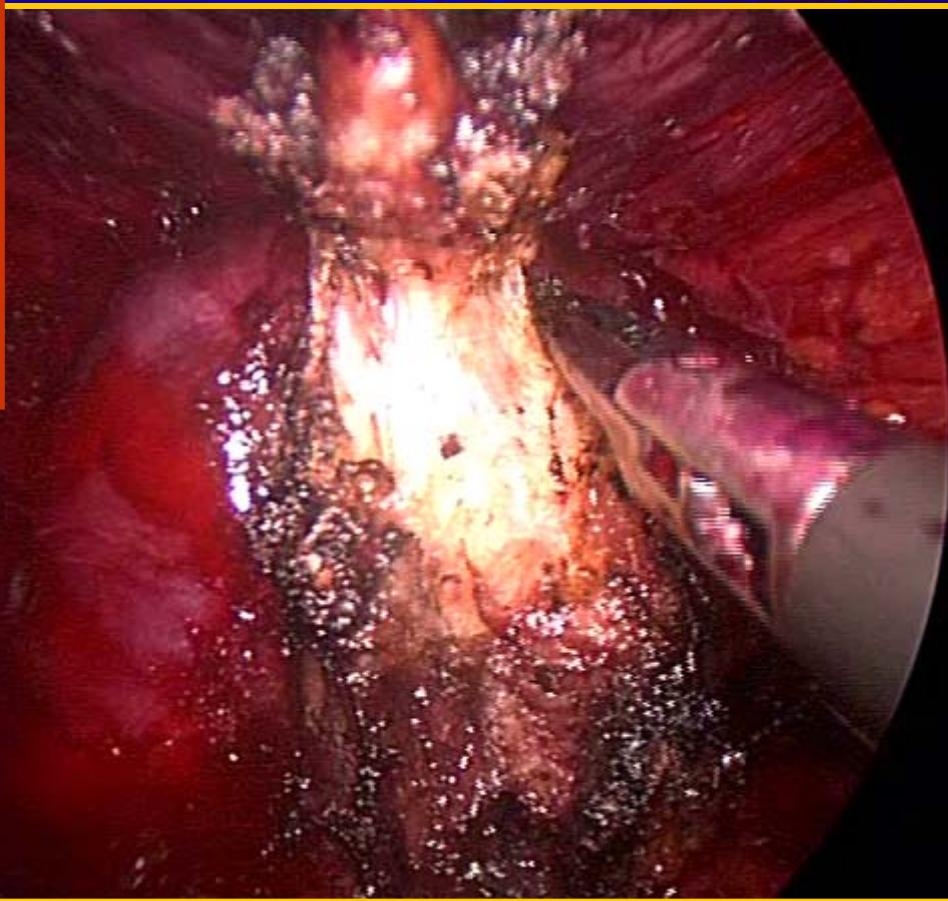
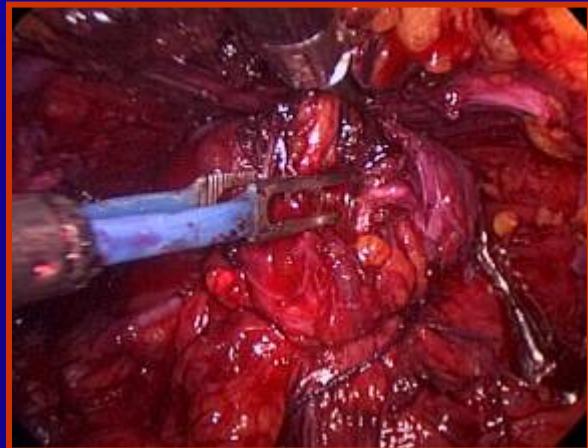
antero-lateral incision of the NVB



Vidéo

Retrograde extra-peritoneal laparoscopic prostatectomy

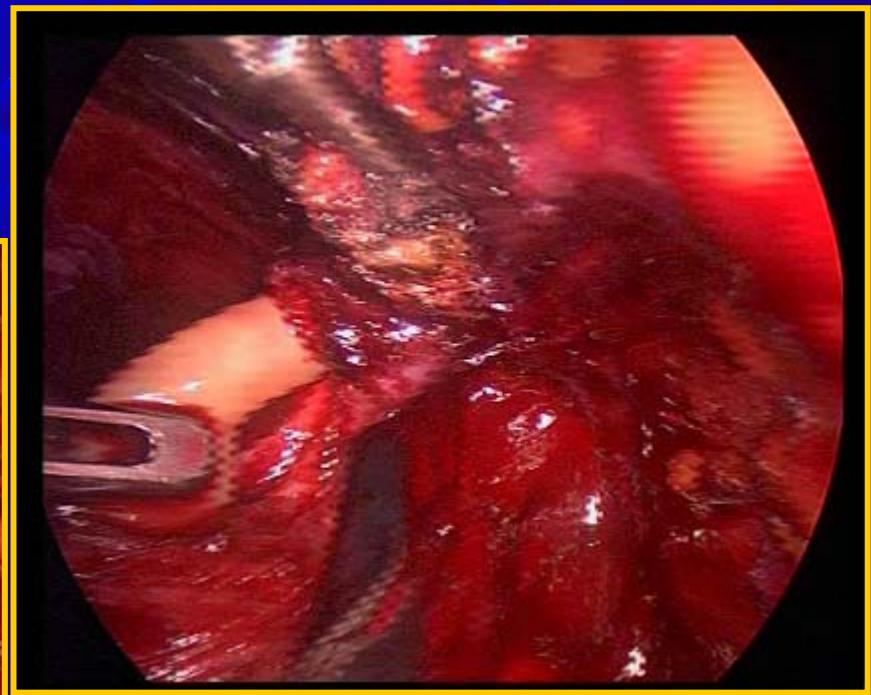
Santorini plexus and anterior urethra division



Vidéo

Retrograde extra-peritoneal laparoscopic prostatectomy

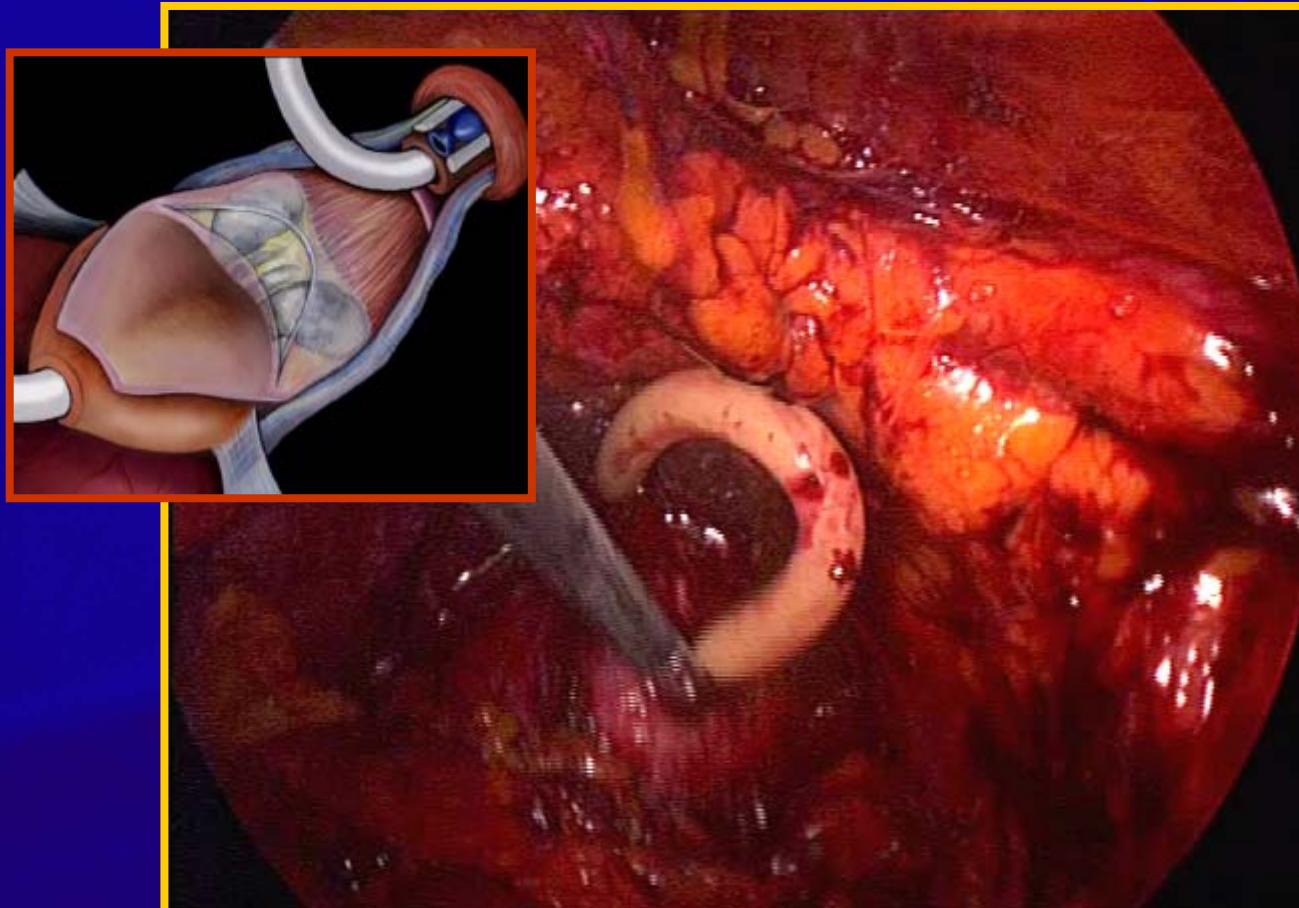
apical dissection



Vidéo

Retrograde extra-peritoneal laparoscopic prostatectomy

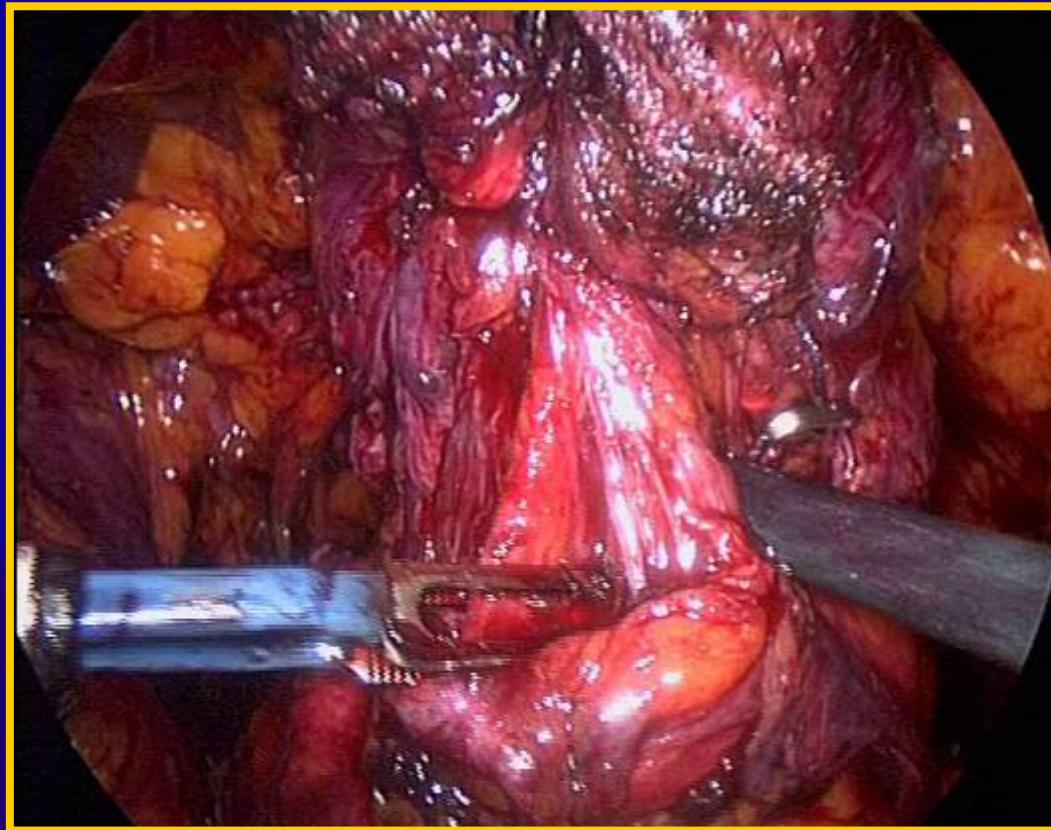
retrograde dissection



Vidéo

Retrograde extra-peritoneal laparoscopic prostatectomy

bladder neck incision



Vidéo

Retrograde extra-peritoneal laparoscopic prostatectomy

Vesico urethral anastomosis :

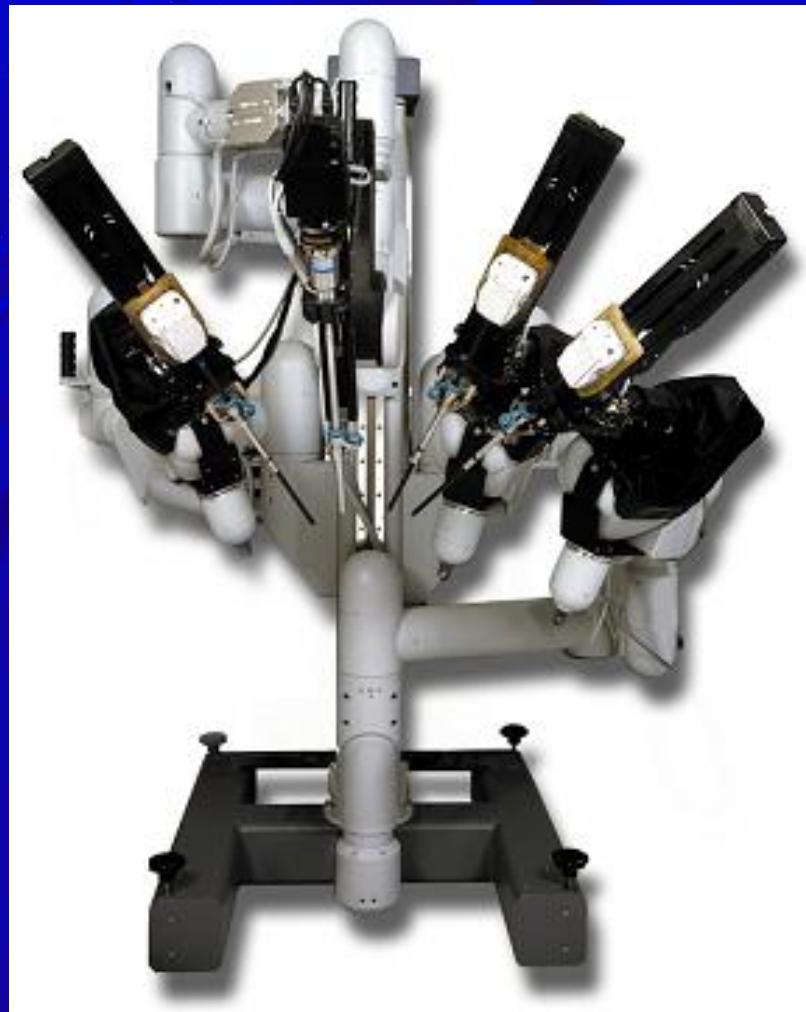
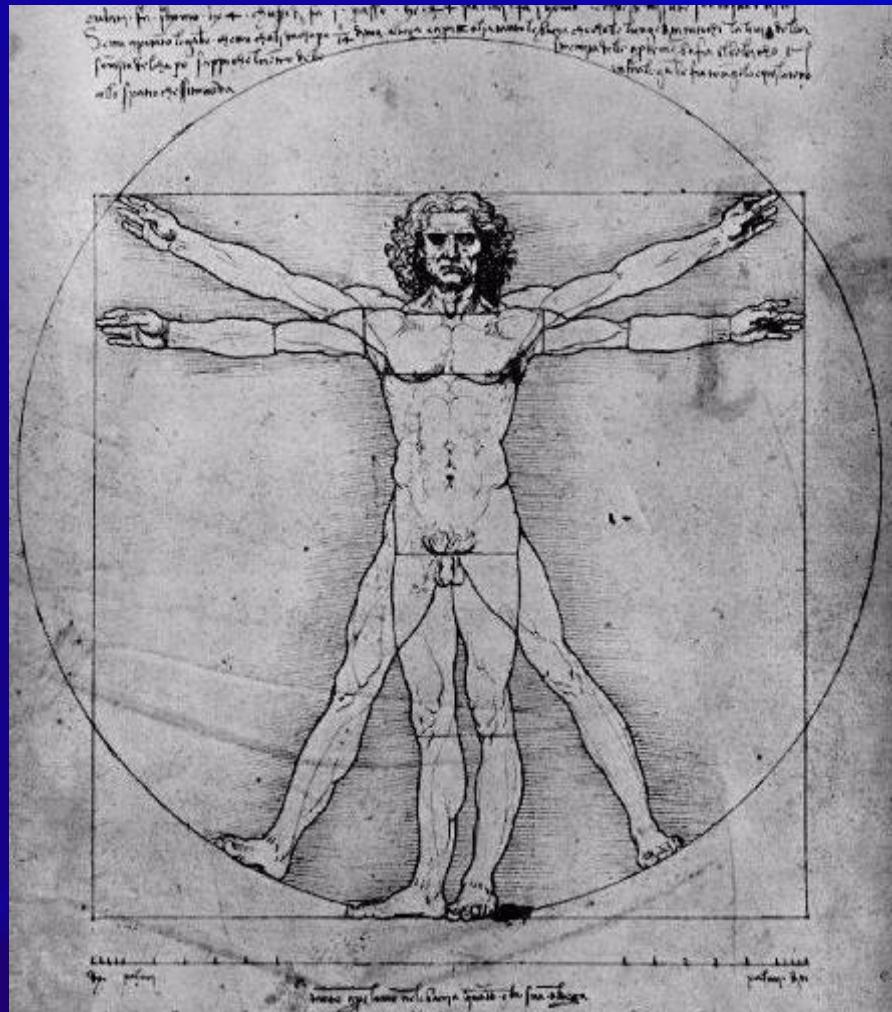
separate stitches (extra or
intra corporeal knots)

or running suture



© Yann Corby

The Da Vinci robot ®





3-D Image

2 cameras

2 sources of cold light

view in the axis of the arms



Precision

2:1 to 5:1

reduced movements



5 cm



1 cm

less shaking

History of Da Vinci® at the Clinique Générale Beaulieu, Geneva

October 2002

Decision to test the Da Vinci robot at the CGB in Geneva

January 2003

11 interventions in 1 week and a broadcast with IRCAD-EITS (R. Gaston, C.-H. Rochat).

March - June 2003

Approval of the project and training of teams.

September 2003

Start of procedures

Presentation of the robot



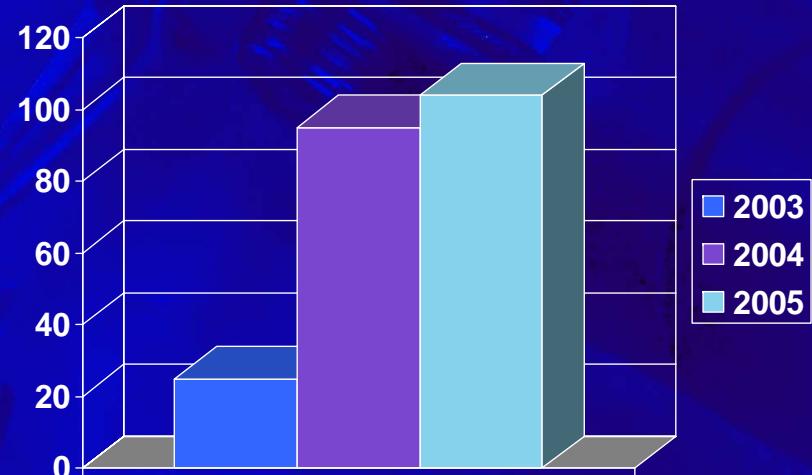
Clinique
GENERALE-BEAULIEU

Number of procedures:

2003 : 25

2004 : 95

2005 : 104



Limitation :

6 Endoscopes only

48 hours for sterilization per Endoscope

(purchase of x system in 2006)

Robotic laparoscopic prostatectomies (RLP)

May 2000

J. Binder, Frankfurt

July. 2000

C.C. Abbou, Paris

Sept. 2000

G. Vallencien, Paris

Nov. 2001

M. Menon, Detroit

Aug. 2002

H. John, Zürich

Jan. 2003

C.-H. Rochat, R. Gaston, Geneva



Clinique
GENERALE - BEAULIEU

DVP : 150	
– Trans-peritoneal	141
antegrade	139
retrograde	2
– Extra-peritoneal	9
antegrade	1
retrograde	8
– Staging	66

Clinique
GENERALE - BEAULIEU

Other procedures:

Urological

- nephrectomy
- part. nephr.
- nephro-uret.
- cystectomy
- promontofix.
- vasect.revers
- Pyéloplasty

Non urological

- hiatal hernia
- colon & sigm.
- Gastroplasty
- tubar plasty
- others

22
15
7
3
9

Excision d'une tumeur rénale

Centre de laparoscopie robotisée

Clinique Générale-Beaulieu Genève

Major complications

Technical

2 robot initiation failure (>conv. laparoscopy)

Medical

1 urethro-rectal fistula (Béniqué trauma !!)

1 reoperation for retro-vesical hematoma

2 severe bleeding (extraperitoneal technique)

3 anastomotic leakage (3 weeks catheter)

1 pulmonary embolie

Intraperitoneal laparoscopic prostatectomy evolution in 2005 / 06

First lowering of the bladder

No incision of the endopelvic fascia

Initial access to the bladder neck

Inter-fascial dissection of neuro-vascular bundles
by starting below the prostate (breaststroke
movement)

Selective section of urethra without ligation of the
plexus of Santorini

Anastomosis in two half-running sutures

Center for Robotic-assisted Laparoscopy

SMB
Société Médicale Beaulieu

CGB
Clinique Générale Beaulieu



LAPAROSCOPIC PROSTATECTOMY THE INTRAPERITONEAL APPROACH IN 2005

Dr. Charles-Henry Rochat Dr. Jean Sauvain

ERUS 2005

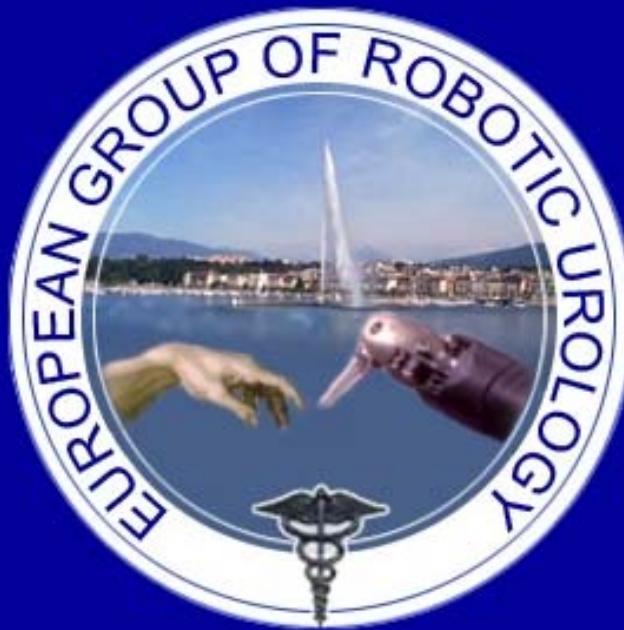
EUROPEAN ROBOTIC UROLOGY SYMPOSIUM

Geneva, Switzerland > February 24-25, 2005



Launching the European Data Base

European Group of Robotic Urology



Groupe Européen de Robotique en Urologie

www.egru.ch

Fonctional and oncological results under evaluation

EGRU data Base :

- 6 centers for prospective study
- Starting early 2006



Better vision,better precision....better results?

Conclusion

Advantages for the surgeon:

special 3-D vision

easy access to difficult
surgical sites

ergonomic position

precision of gestures by:

less shaking

reduced movements

instruments rotation on 6
directions



Conclusion

Improvements for the patient:

improved security
precision of dissection
small incisions
combined advantages of the
mini-invasive surgery:
reduced bleeding
reduced infections
reduced pain
shorter hospitalization and
recovery period



Financial aspects



Title: The Financier
Artist: Red Skelton

Costs

Purchase

Cash

Leasing

Private donations, Foundations

Maintenance

Consumables

Da Vinci ® Consumables

Prostatectomy

COSTS	
5 FORCEPS	SFr. 2'362.45
2 TROCARTS	SFr. 366.75
1 SUCTION	SFr. 114.80
ROBOTIC DUST COVER	SFr. 262.05
STERILIZATION	SFr. 301.00
TOTAL COST	SFr. 3'407.05

2200 €



Benefits

Technological advance

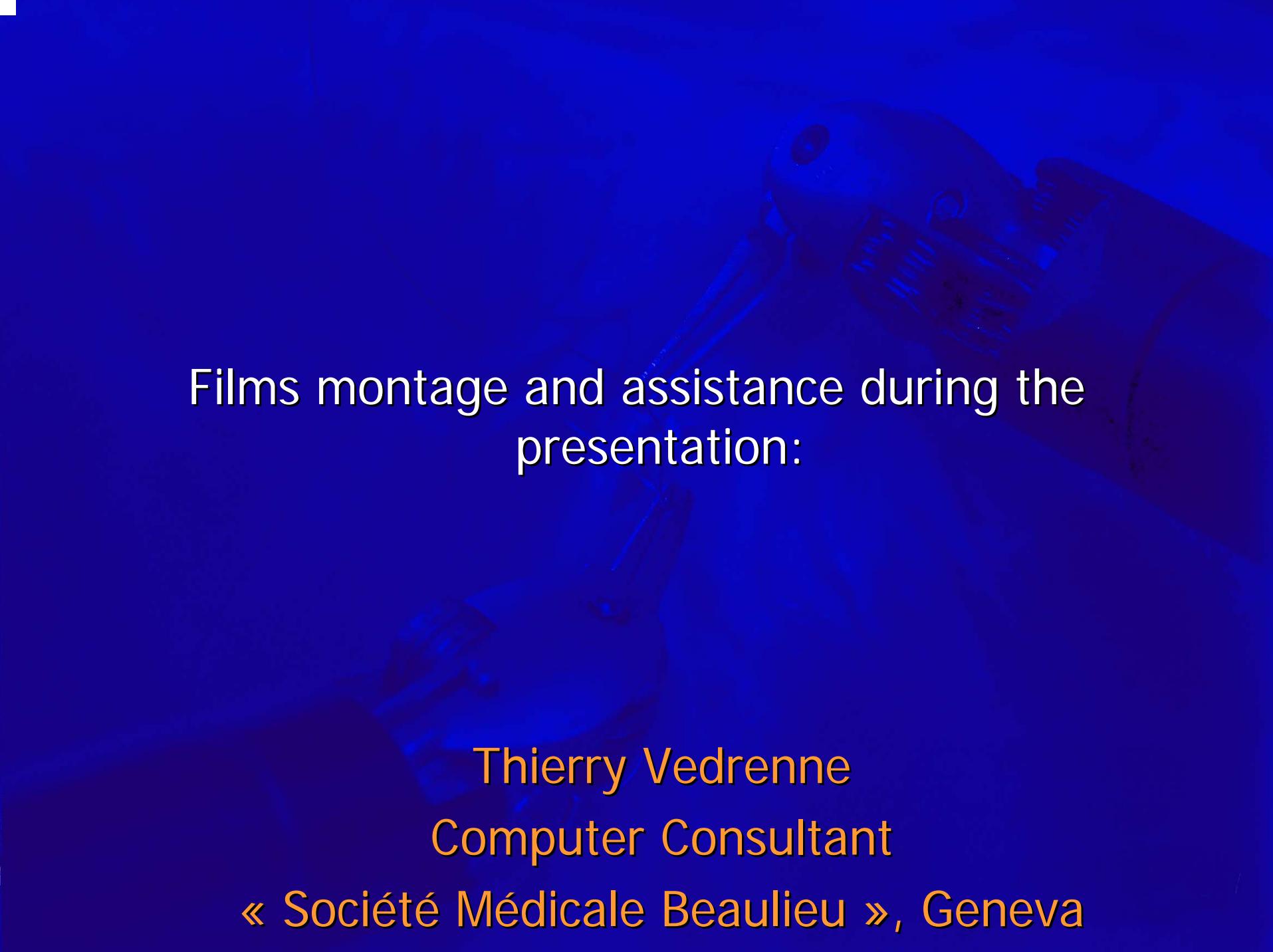
Multi-disciplinary use

Benefits of the mini-invasive surgery

Hospital stay

Recovery

No direct financial rentability



Films montage and assistance during the presentation:

Thierry Vedrenne
Computer Consultant
« Société Médicale Beaulieu », Geneva





**NEPHROURETERECTOMIE
PAR DISSECTION ROBOT
ASSISTEE (DA VINCI)**

Centre Pluridisciplinaire de Laparoscopie

Robotisée

Clinique Générale Beaulieu

Genève

Rochat C.-H. et Sauvain J.