

Robotic Thyroid Surgery in Europe

Dr P. Aidan

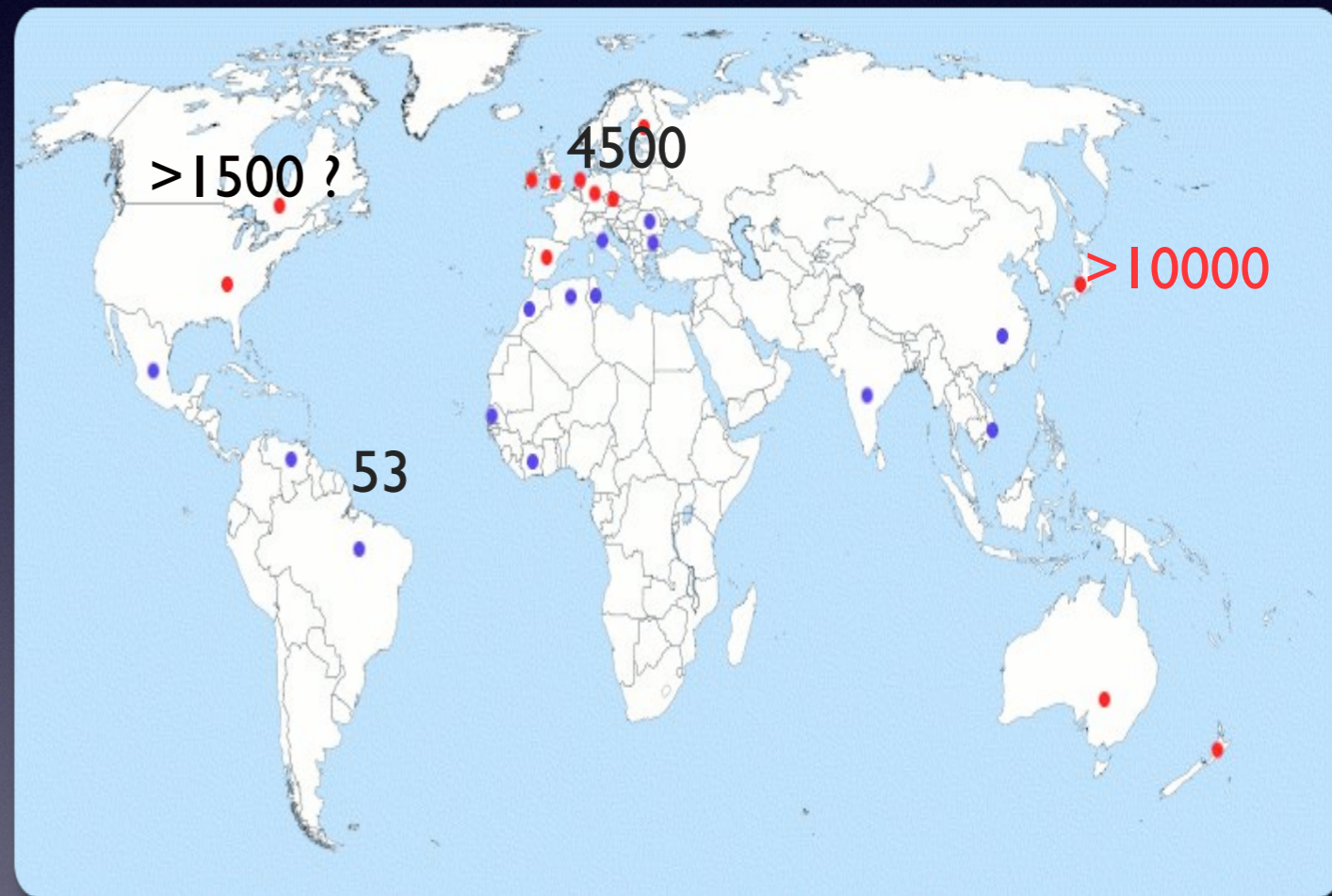
Chief of Head and Neck Surgery
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Conflict of interest

- Proctor and Trainer for Intuitive Surgery™
 - Robotic thyroid Surgery

Robotic Thyroidectomy

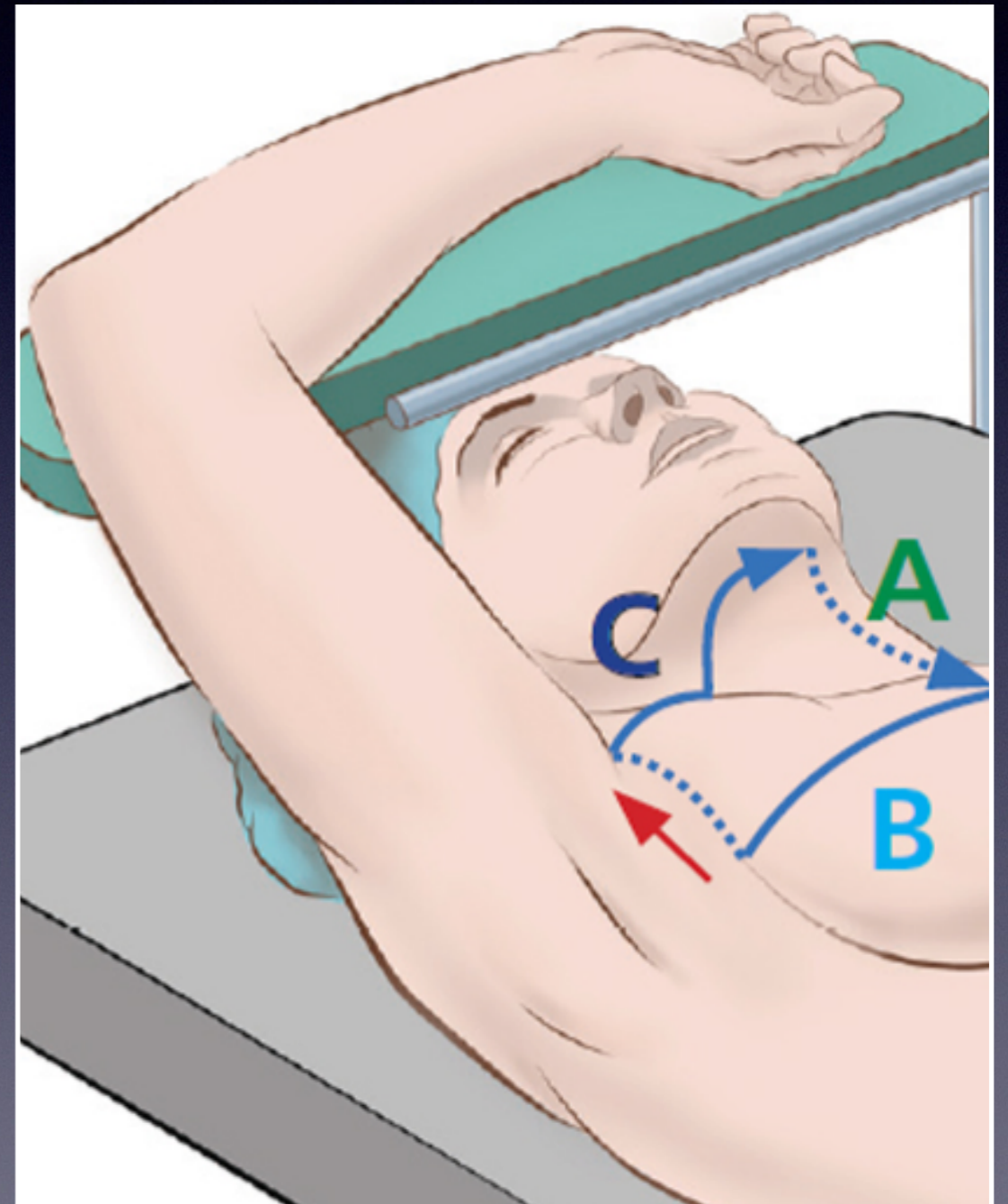
- Robotic Thyroid Surgery :
 - > 10000 South Korea
 - 4500 cases in Europe
 - 200 cases/year in France
 - 1500 cases in AHP
 - Italy, Germany, Turkey, Greece, israel..



Trans-axillary approach

Essential factors

- Wide and precise dissection
 - Anatomic landmarks
 - Avoiding robotic arm conflict
- Arm positioning
- Retractor in right place
- For total thyroidectomy, MRND



Trans-axillary Approach



- Why axillary approach to access of thyroid gland ?
- Anatomic dissection : Natural operative view
- Arm positioning : reduced distance to thyroid gland
- Adequate endoscopic access to Thyroid Cancer surgery
- Preservation of PT gland and RLN.

How I do it

The Laryngoscope
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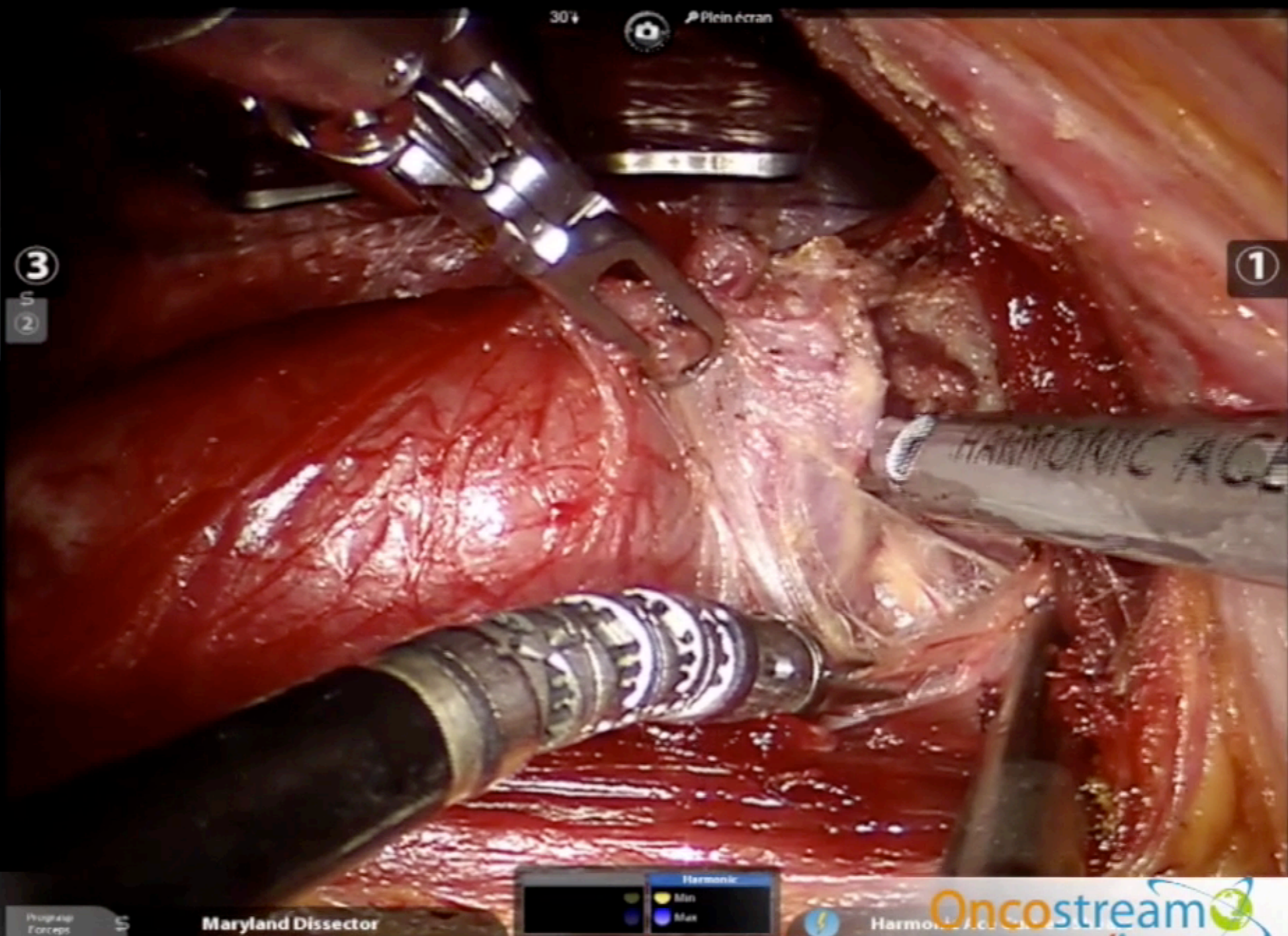
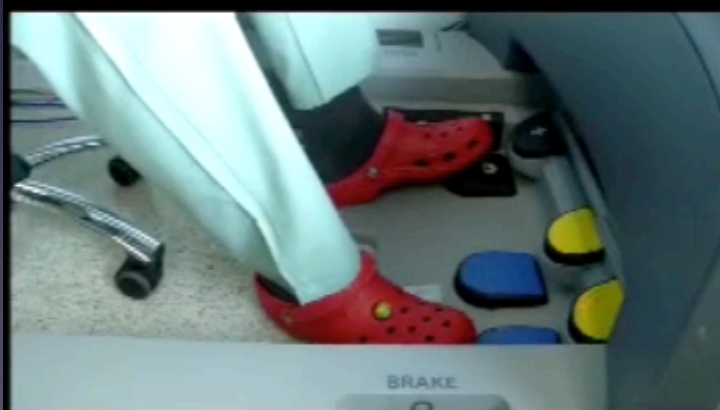
How I Do It

Technique, Pearls, and Pitfalls of the Transaxillary Approach for Robotic Thyroidectomy (With Video)

François Simon, MD, PhD ; Romain Luscan, MD, MSc; Thomas Blanc, MD, PhD;
Sabine Sarnacki, MD, PhD; Françoise Denoyelle, MD, PhD; Vincent Couloigner, MD, PhD ;
Patrick Aidan, MD

Key Words: TARS, transaxillary approach, robot, thyroidectomy.

Laryngoscope, 00:1–5, 2021



INTUITIVE
SURGICAL

Wristed
Forceps

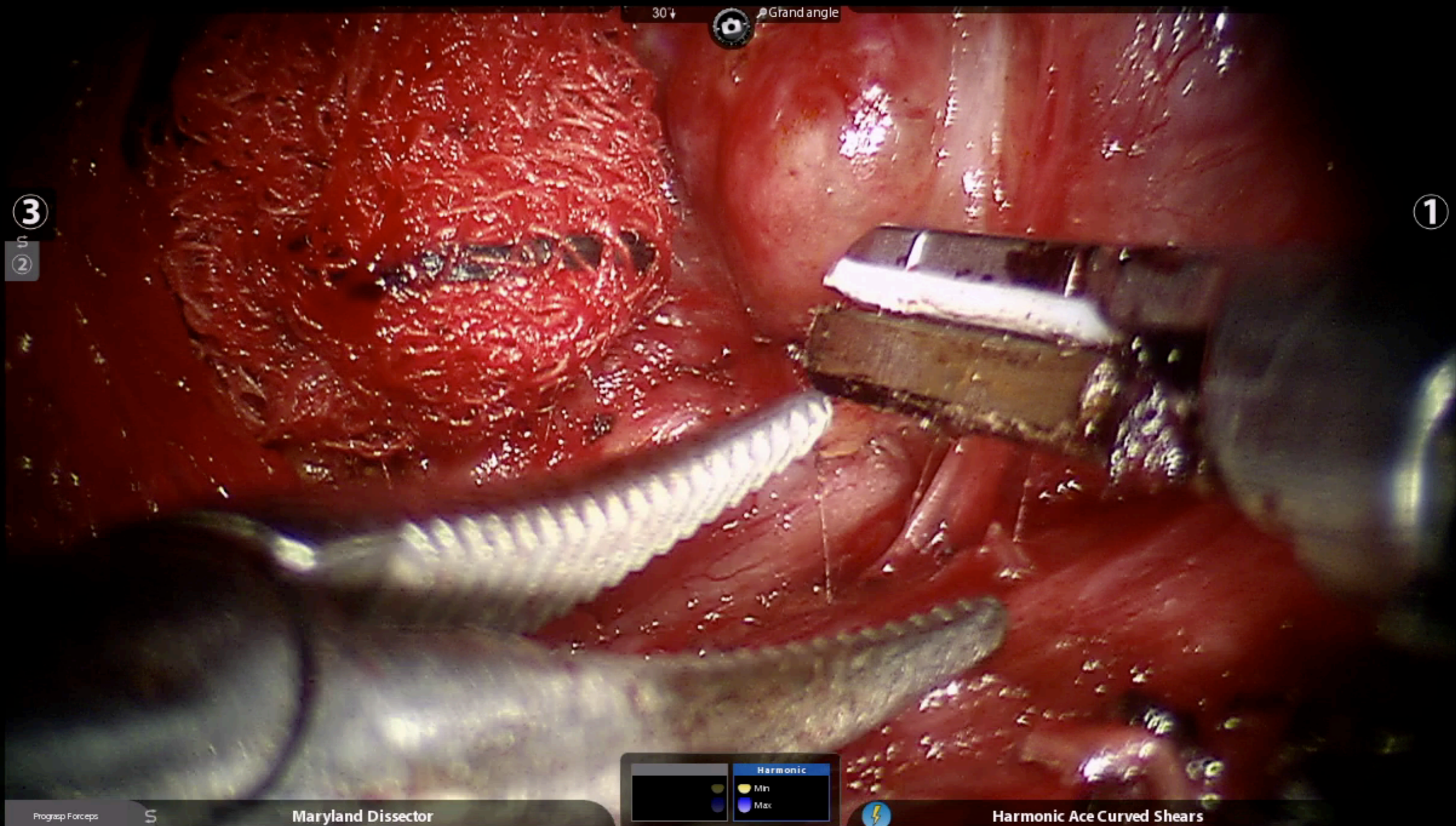
Maryland Dissector

Harmonic

Min
Max

Harmonic

Oncostream
live HD



3
S
2

1

30x

Grand angle

Prograsp Forceps

S

Maryland Dissector

Harmonic

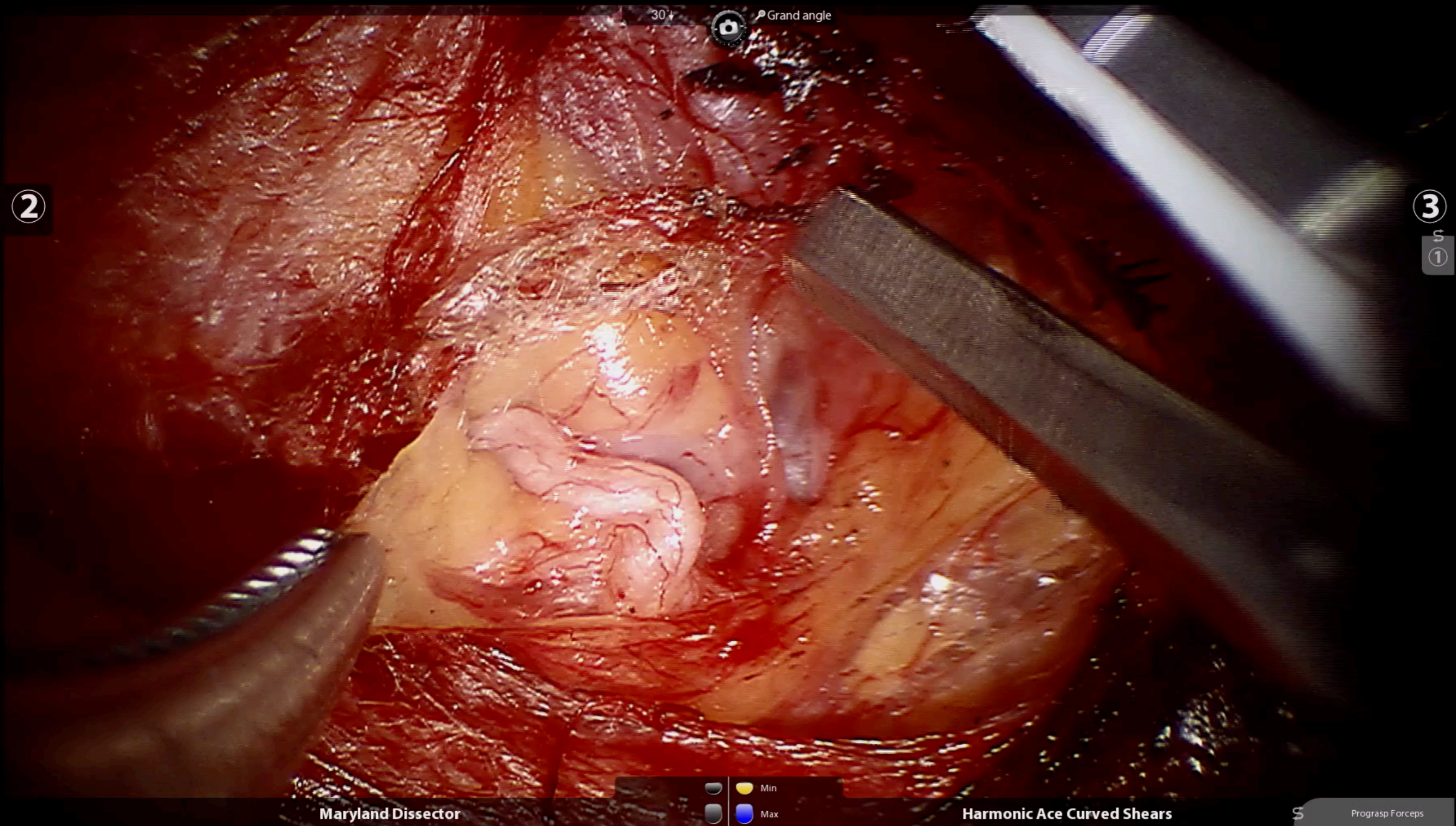
Mn

Max



Harmonic Ace Curved Shears

Parathyroid adenoma



RTS

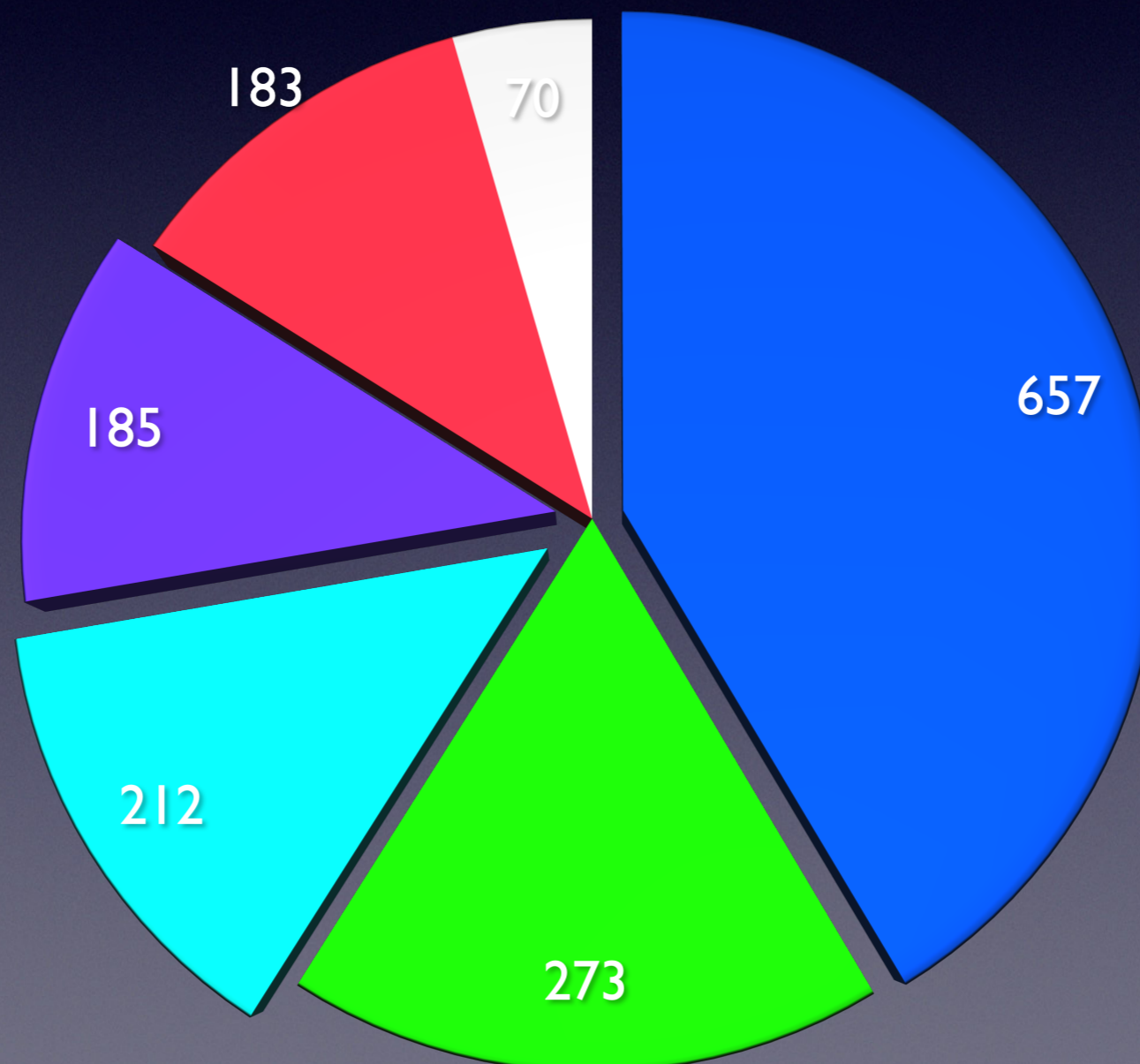
- 1580 patients 2010 to 2022
- Age : 45 (20-84)
- Women 980 , Men 370
- F/M ratio 2,33
- BMI : 23.6 (15-41)



Pathology

● GMN ● Benign ● Grave's ● PTC ● PT Adenoma ● FTC

N=1580



Indications

- Single nodule : 2 to 8 cm
- Multinodular goiter (controlateral volume ++): CT scan or MRI.
 - Volume : 20 to 160 ml.
 - Surgical experience
- Grave's disease
- Cancer T1,T2,T3 N0, N1a
- Parathyroid Adenoma



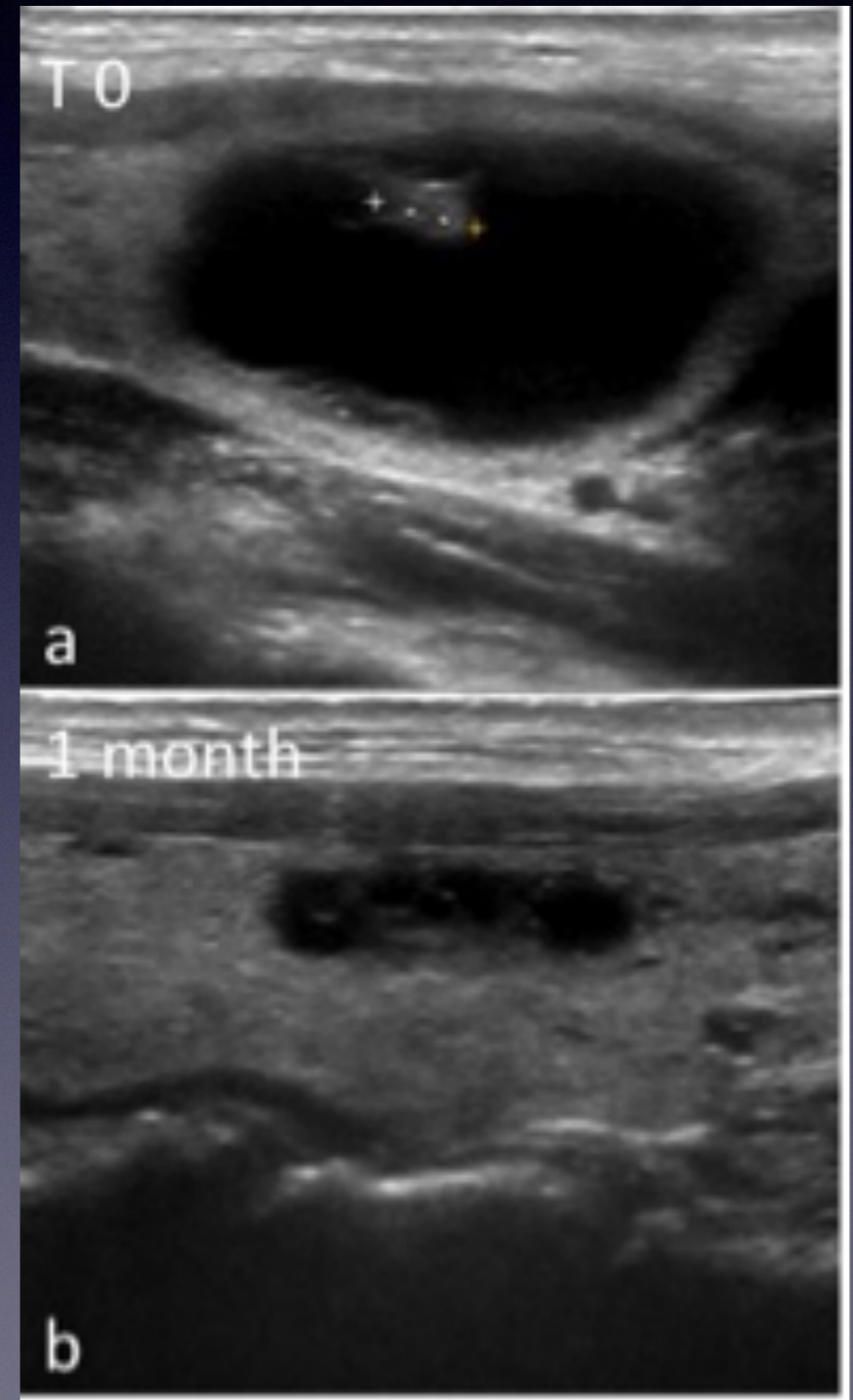
Single Nodule

- Single nodule : 2 to 8 cm
- N : 273 (25%)
- More 4 cm : Benign tumor
- Cytology : Follicular and oncocyary
- TIRADS : 4b
- Robotic lobectomy from TAA.



Multi-nodular Goiter

- N : 657 (48%)
- Anatomy of the neck
- Imaging : CT or MRI
 - Volume, Retrosternal position
 - Controlateral volume

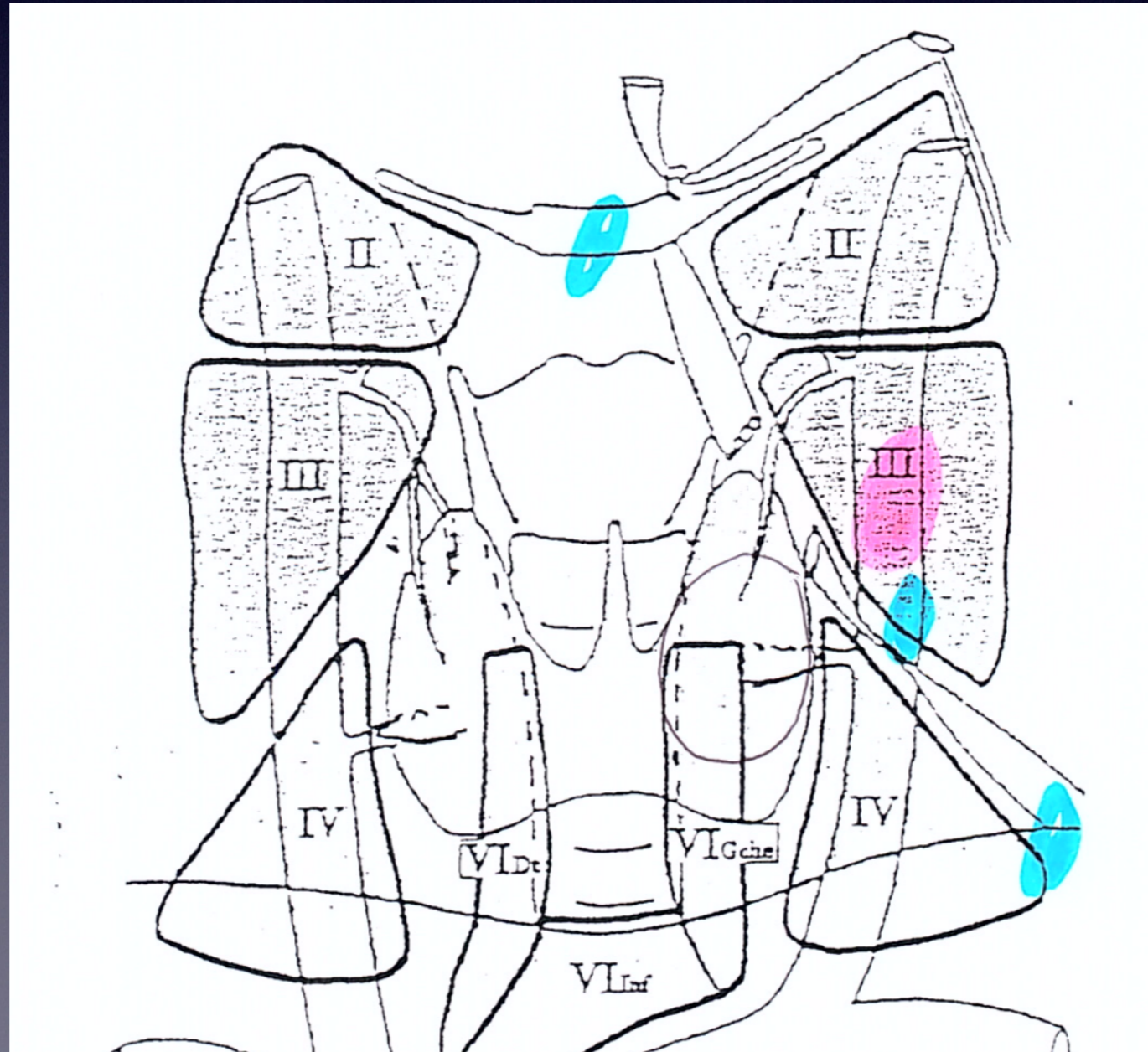


Thyroid Carcinoma

- N : 185 Papillary and 70 Follicular.
- Total Thyroidectomy or Partial.
- 10 double surgeries : Negative frozen pathology (Vesicular carcinoma)
- Lymph node dissection level VI
- 16 : MRND (Level II to VI).

Thyroid Carcinoma

- Lymph node staging is primordial (sonography++)



Thyroid Carcinoma

- Indications :
 - Surgical experience, preop staging
 - T1,T2, only inside the gland
 - N0, N1a
 - Bethesda 4 like malignant tumor.
 - Learning curve : Lobectomy, Total and MRND.

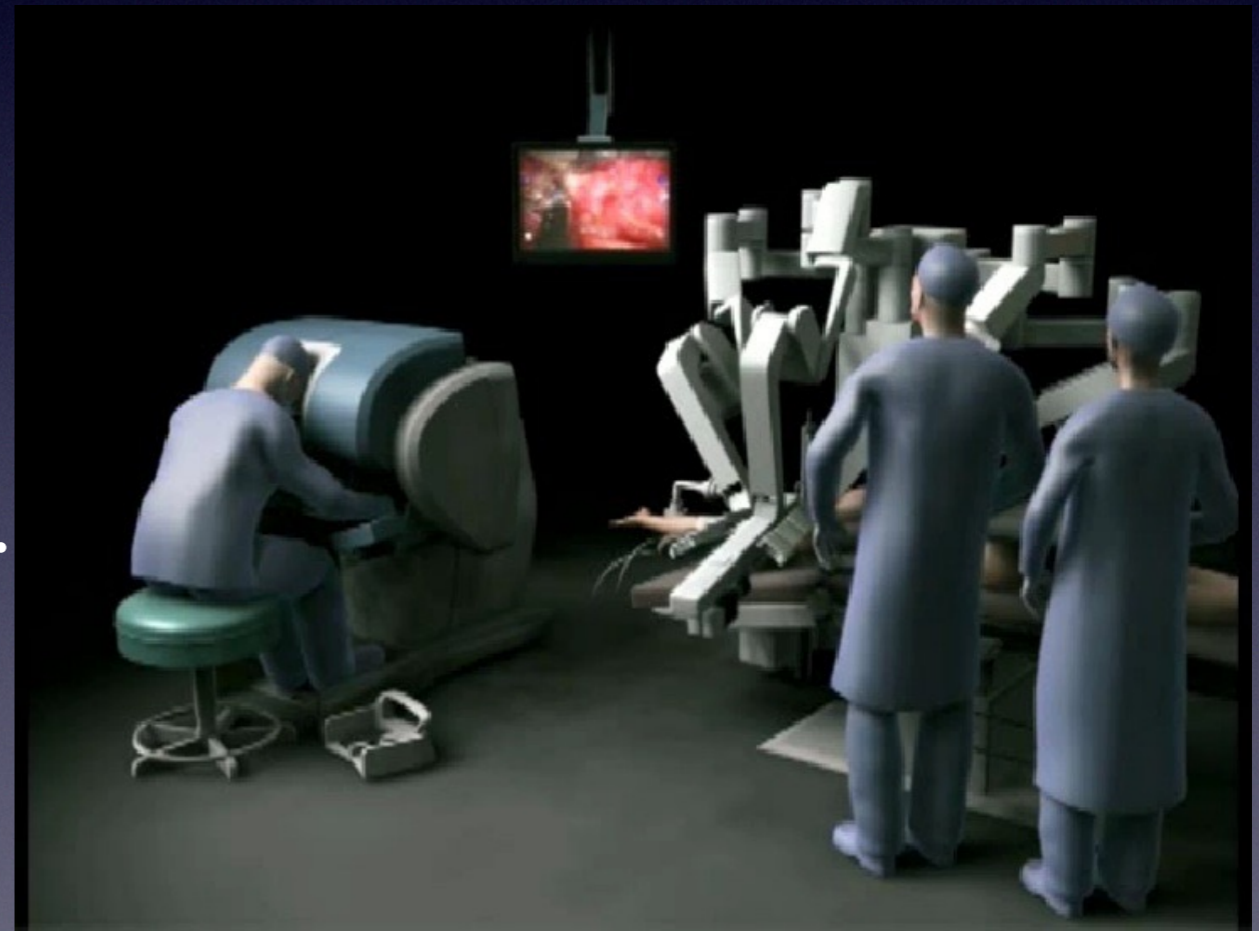
Grave's disease

- 212 cases
- After 150 cases of RTS
- 74 women / 28 men
- All total thyroidectomy
- Preparation +++



Instructions before surgery

- Lugol solution 1% : 10 days before surgery (SSKI).
- Neomercazol : 10 to 20 mg/d
- Propranolol : 1/d 1 month before.
- Steroids : 1 mg/kg 7 days before.
- Preop normal T4...

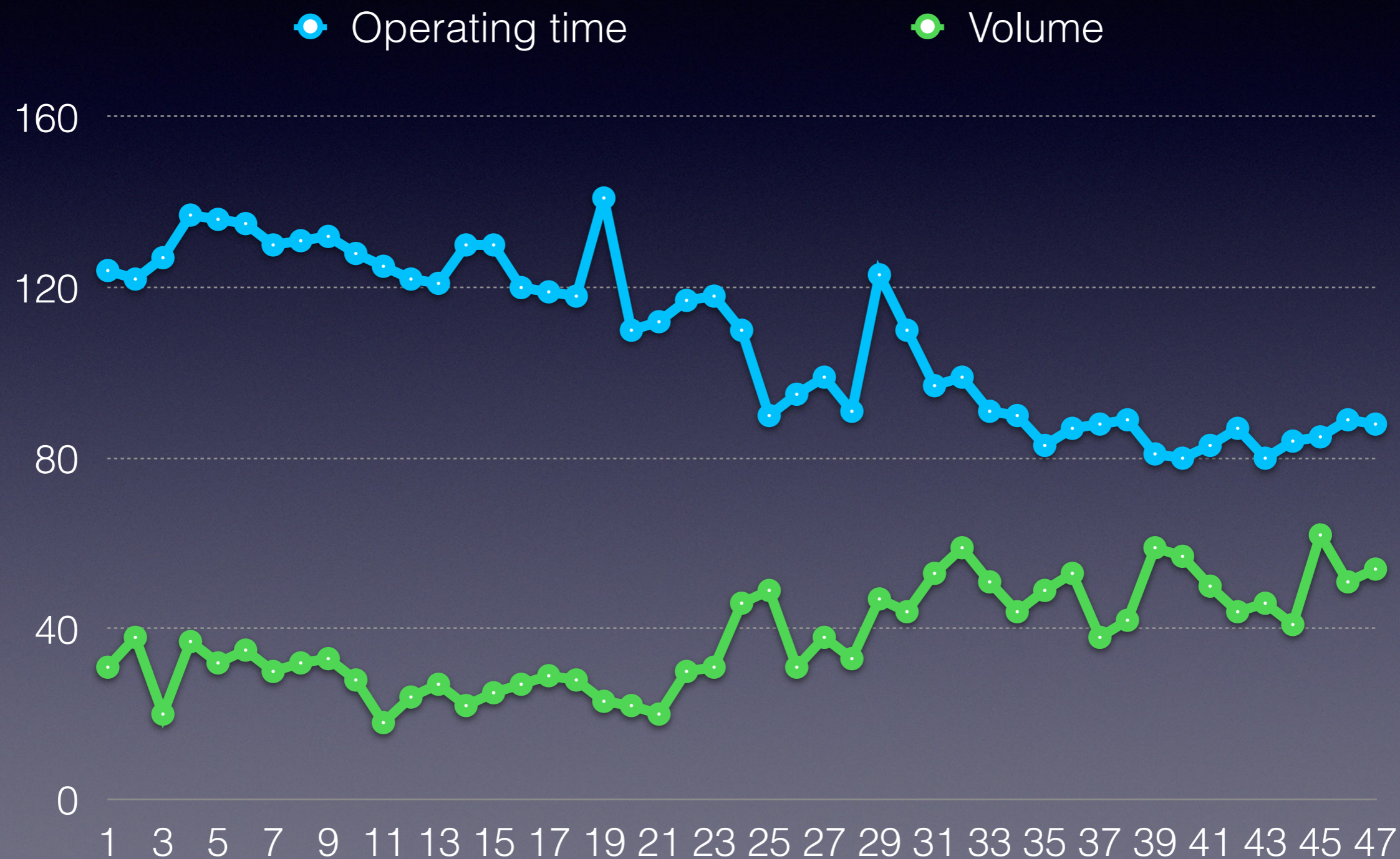


Results

- N = 212
- Age : 27,3 (19/58)
- BMI : 24,1 (18,2/38,1)
- Volume : 31,7 ml (19/74)
- Hospital stay : 2 days.

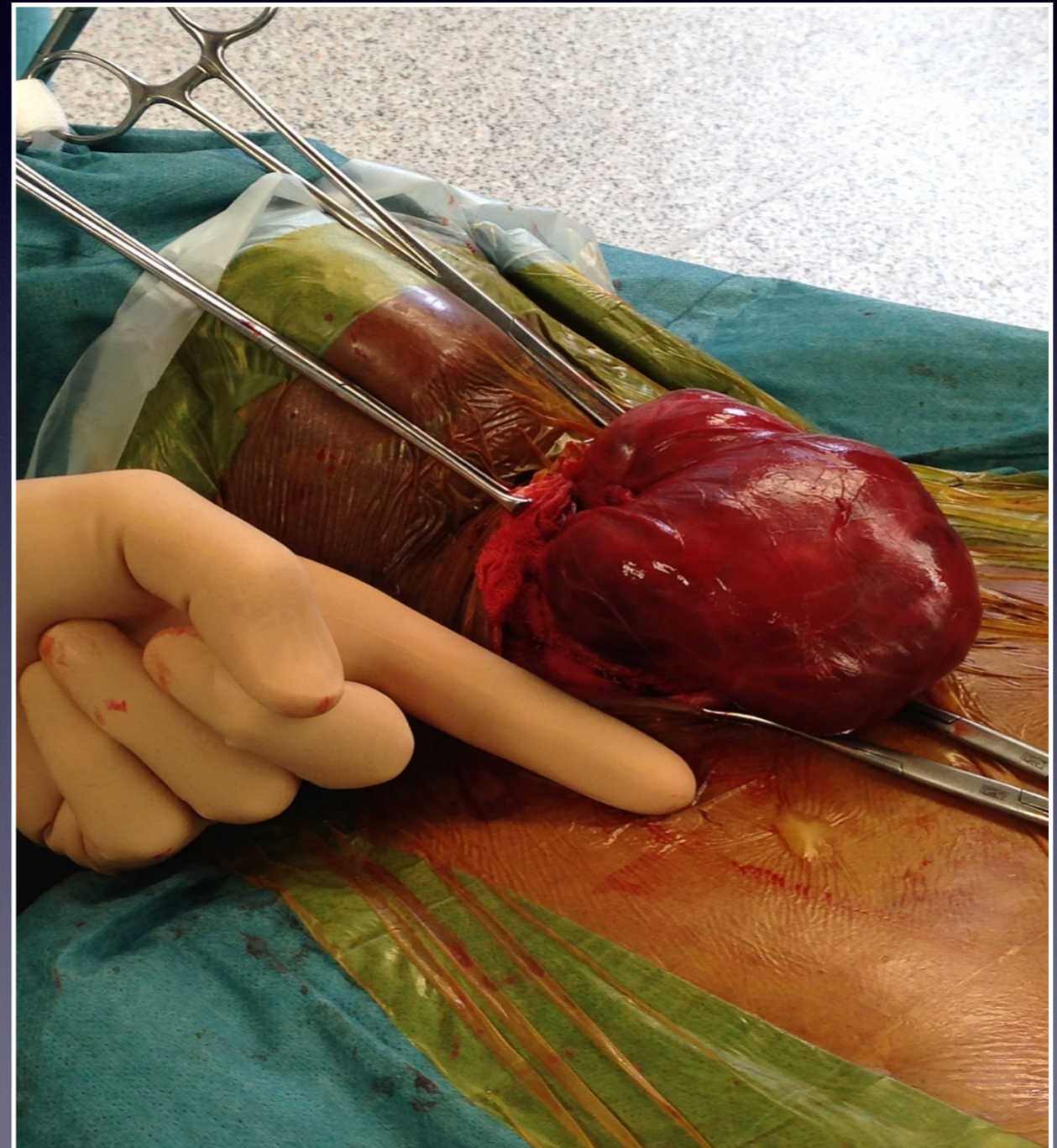


Operating Time/Volume



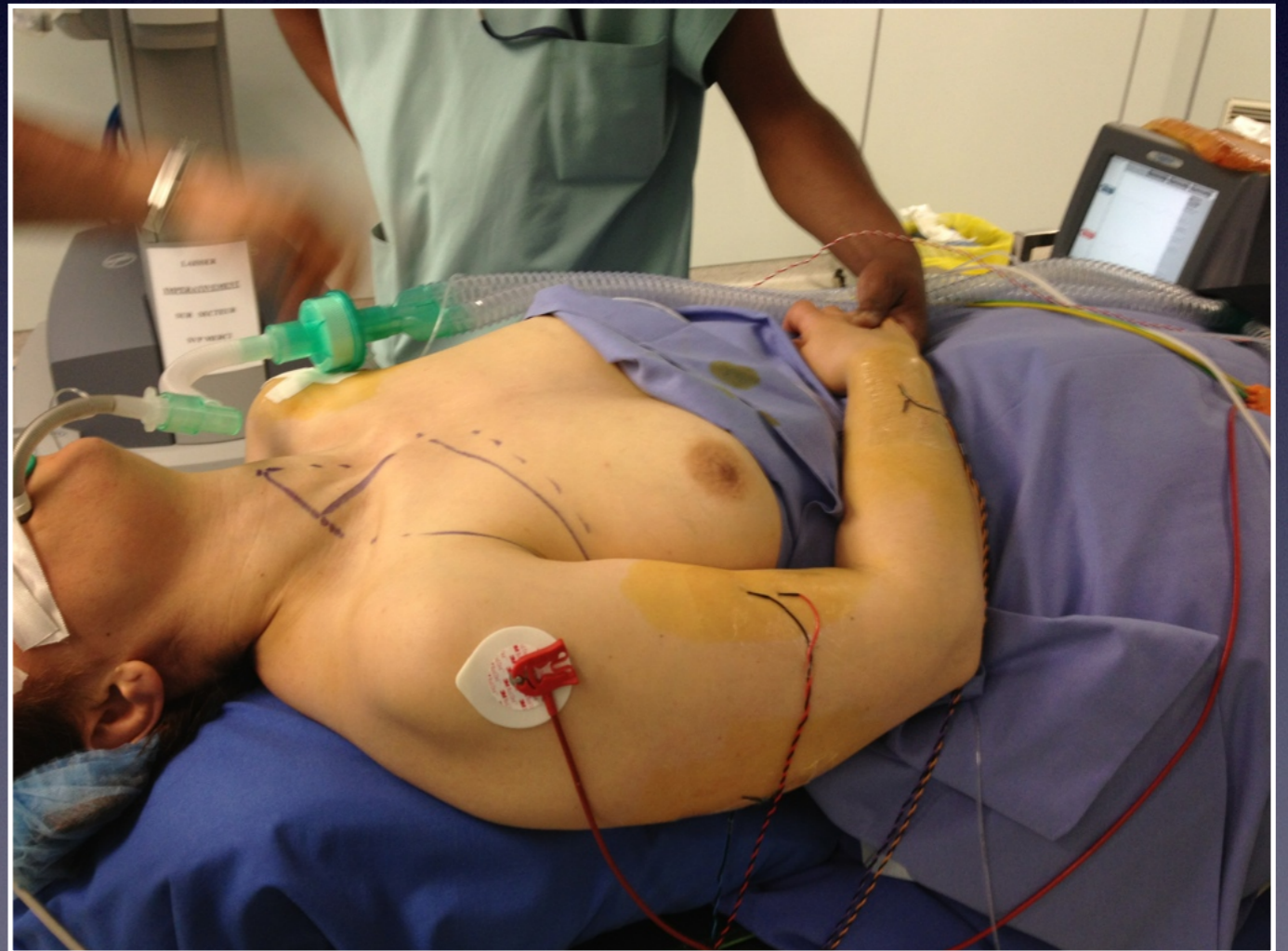
Contre-indications

- Anatomy
- Bilateral multinodular goiter
 - Volume+++(>120ml)
- Cancer :T3 N1b,T4



Complications

- Dysphonia : unilateral RLN
 - T : 28, P : 9 (0,6%)
- Hypocalcemia :
 - T : 30, P : 4 (0,5%)
- Transient Brachial Plexus : 4.
- Hematoma : 12 (8 : OR).
- Seroma : 1
- Horner syndrome : 1



Cervical Scarr



Cheloid Scarr



Cosmetic concerns

- Keloid scar
- Difficulties with healing
- Culture : Asian girls..
- Self body image



Cosmetic concerns

- Keloid scar
- Difficulties with healing
- Culture : Asian girls..
- Self body image



Training center in Europe

- European Course :
 - IRCAD Strasbourg
- Double console
- Virtual Training



Perspective for RTS

ORL J Otorhinolaryngol Relat Spec. 2018 May 22:1-9. doi: 10.1159/000488354. [Epub ahead of print]

Robotic Thyroid Surgery: Current Perspectives and Future Considerations.

Aidan P¹, Arora A², Lorincz B³, Tolley N⁴, Garas G^{4,5}.

Author information

Abstract

Robotic transaxillary thyroidectomy, pioneered in South Korea, is firmly established throughout the Far East but remains controversial in Western practice. This relates to important population differences (anthropometry and culture) compounded by the smaller mean size of thyroid nodules operated on in South Korea due to a national thyroid cancer screening programme. There is now level 2 evidence (including from Western World centres) to support the safety, feasibility, and equivalence of the robotic approach to its open counterpart in terms of recurrent laryngeal nerve injury, hypoparathyroidism, haemorrhage, and oncological outcomes for differentiated thyroid cancer. Moreover, robotic thyroidectomy has been shown to be superior to open surgery for certain patient-reported outcome measures, namely scar cosmesis and pain. Downsides include its high cost, longer operative time, and risk of complications not encountered in open thyroidectomy (brachial plexus neurapraxia). Careful patient selection is paramount as this procedure is not for every patient, surgeon, or hospital. It should only be undertaken by high-volume surgeons operating as part of a multidisciplinary robotic team in specialised centres. Novel robotic approaches utilising the retroauricular and transoral routes for thyroidectomy have recently been described but further studies are required to establish their respective role in modern thyroid surgery.

KEYWORDS: Axillary approach; Cosmesis; Evidence; Facelift; Policy; Retroauricular approach; Robotic surgery; Safety; Thyroid; Transoral route

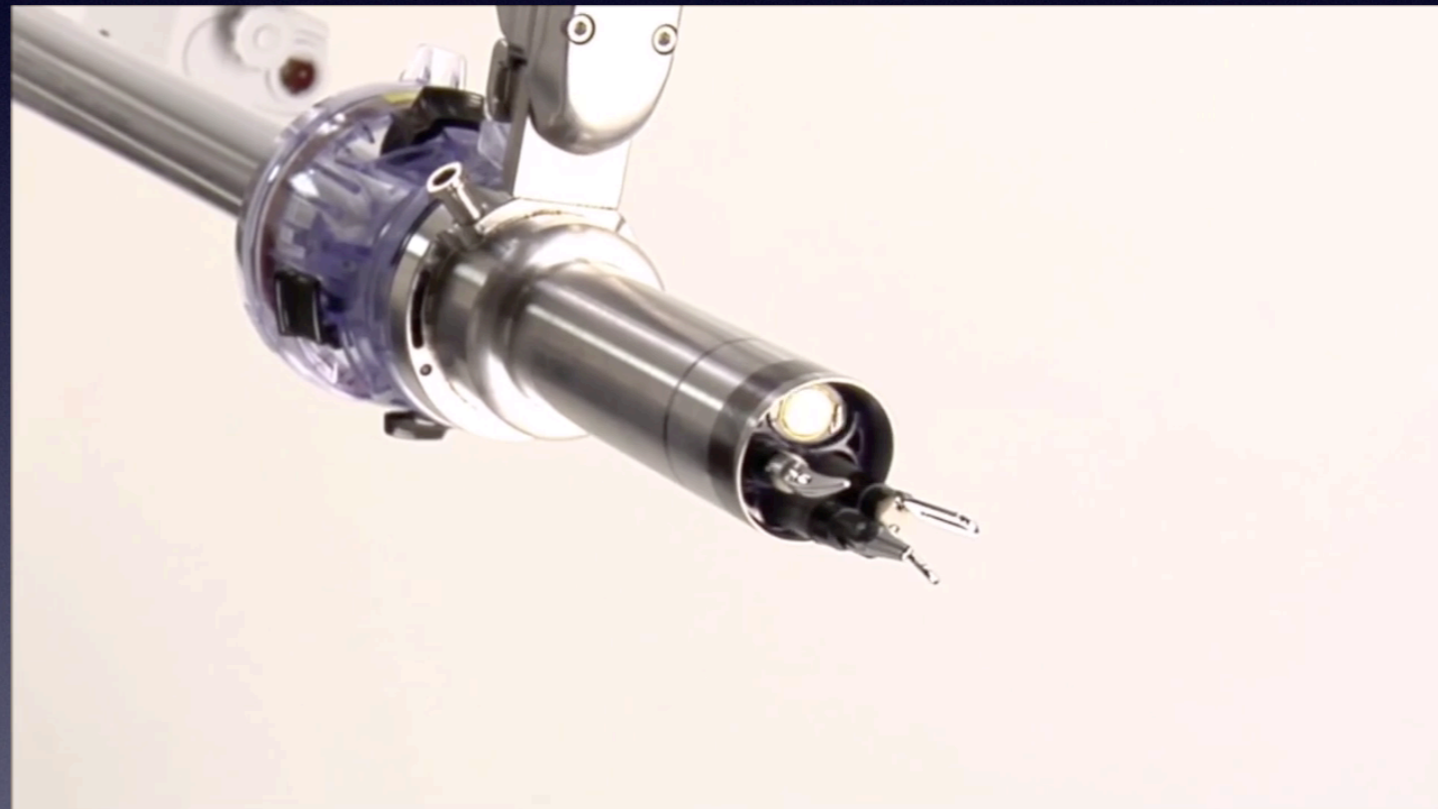
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Free full text



New RTS : SP with Xi

- 2018 South Korea
- Additional console
- Constant evolution
- Pre operative planning
- Intra operative navigation



Summary

- Feasible and safe technique
- Indications : selected patient
 - Surgeon experience
 - Lobectomy first 50 cases
 - Total : size and volume....
 - Lymph Node Dissection

