

# THE TRANSORAL ACCESS IN ENDOSCOPIC THYROID RESECTION

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# Current aspects of open surgery

	conventional	ultrasound
time of resection	78 min.	63 min.
compresses	16,6	4,4
ligatures	26,4	8,2
drain	94 ml	43 ml

## LITERATURE:

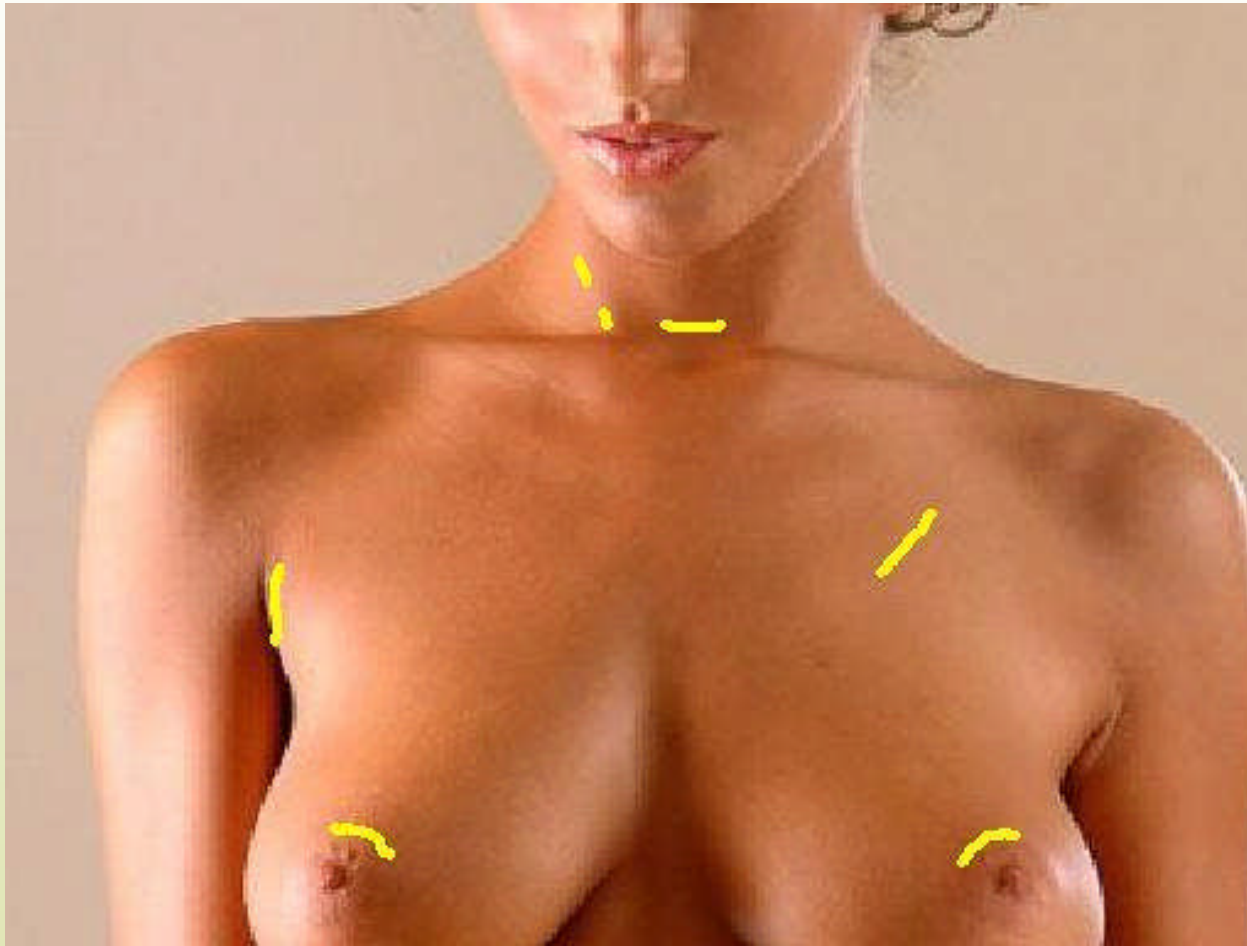
- bleeding (1,1-3 %)
- lesion of nerve (- 2 %)
- hypoparathyroidism
- hematoma (1- 8%)



# **Demands on endoscopic procedure**

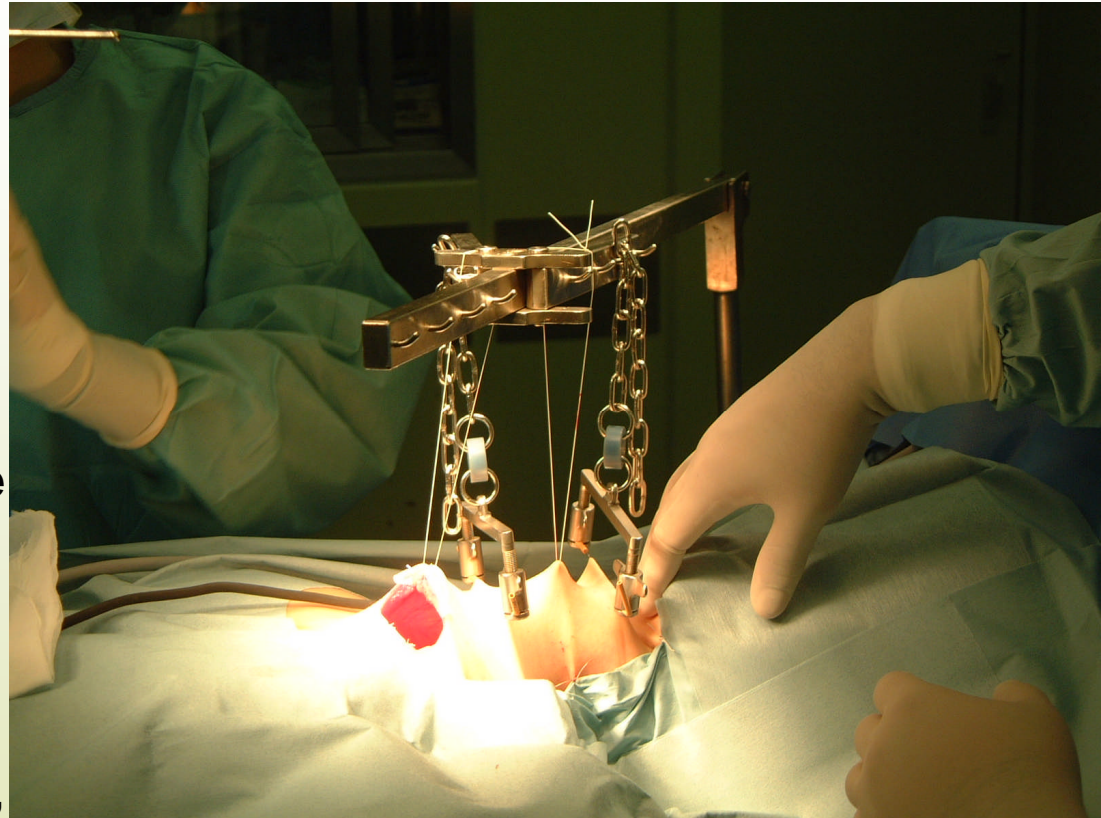
- observe standards of thyroid surgery
- as secure as open surgery
- thyroid gland must be extracted without enlarging the incision
- meet cosmetic demands
- minimally-invasive

# Possible accesses in thyroid surgery

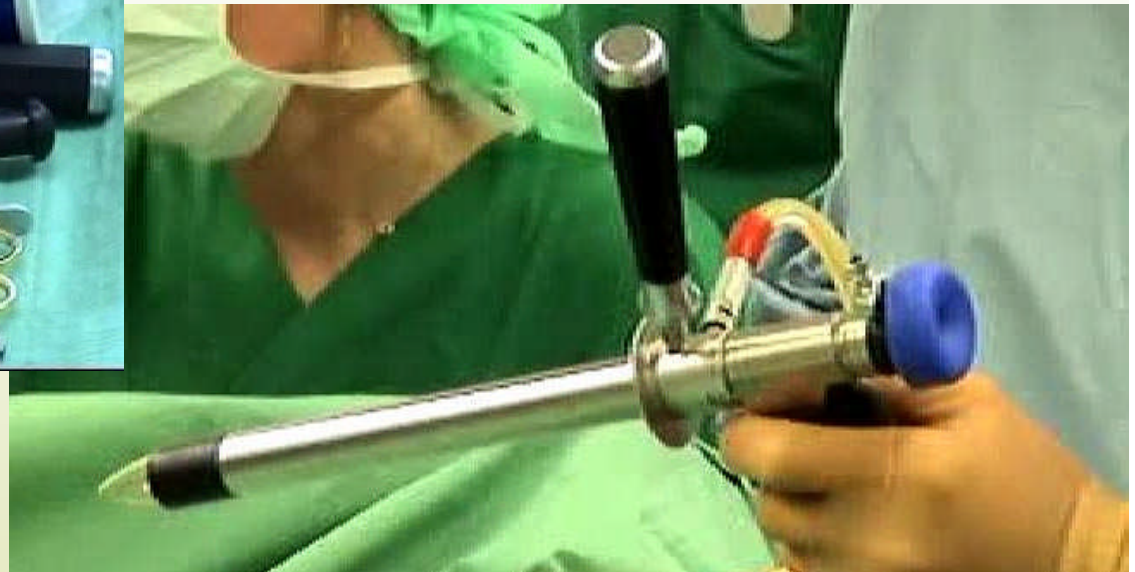


# Minimally-invasive or endoscopic ?

- Miccoli P, Berti P, Conte M, Bendinelli C, Marcocci C. **Minimally invasive surgery for small thyroid nodules: preliminary report.** J Endocrinol Invest 1999; 22: 849-851
- Henry JF: **Minimally invasive surgery of the thyroid and parathyroid glands.** Br J Surg 2006; 93: 1-2
- Messenbäck FG: **Endoskopische Schilddrüsenchirurgie 2004,** Chir Prax 63,647-57
- Shimizu K, Tanaka S. **Asian perspective on endoscopic thyroidectomy - a review of 193 cases.** Asian J Surg 2003; 26(2):92-100

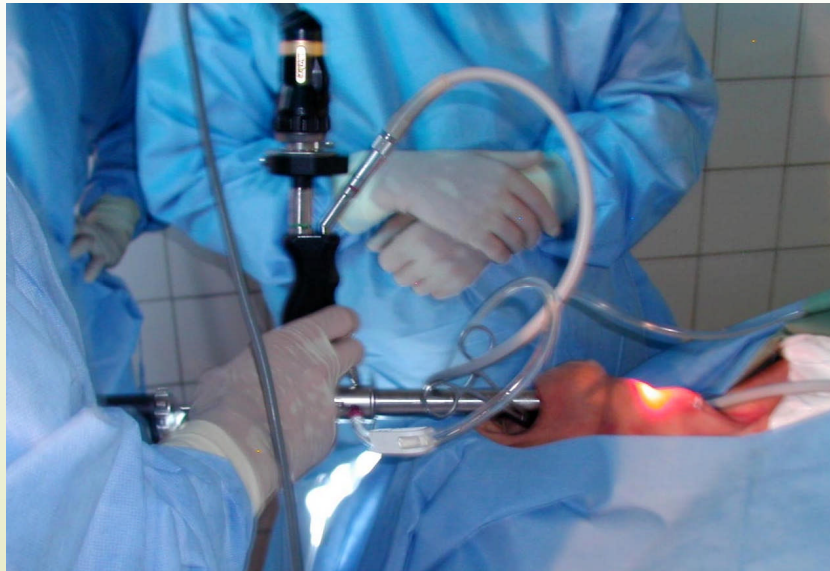


# Instrument and Method



- two human cadavers
- 10 living pigs
- neuro-monitoring in porcine model
- modified axilloscope and an ultrasonic scalpel are used, which permit a total resection of the thyroid gland

# The Transoral Access



[Video](#)



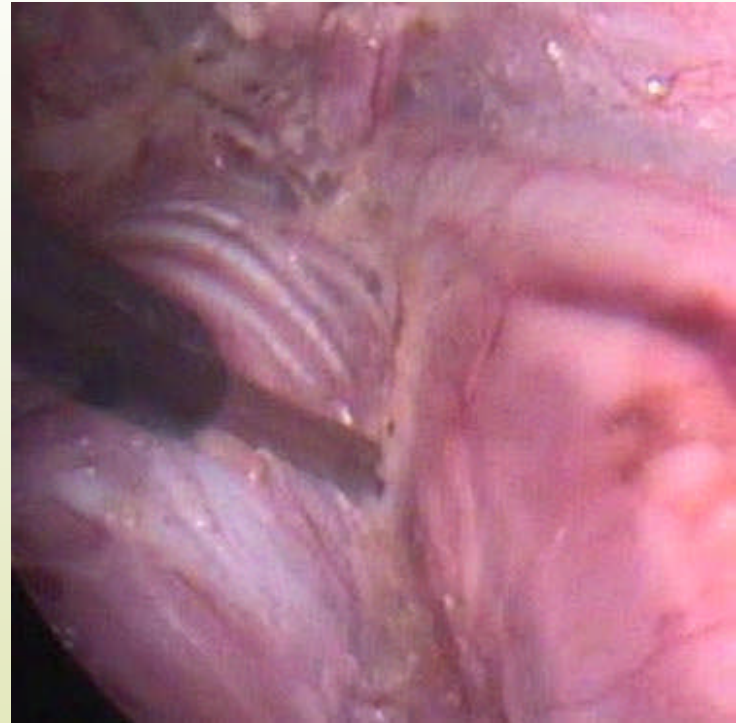
# Results of Transoral Resection

- proof of feasibility in human cadaver
- complete thyroidectomy in living pigs
- Time of procedure in animal model av. 50 minutes (33 -103 min.)



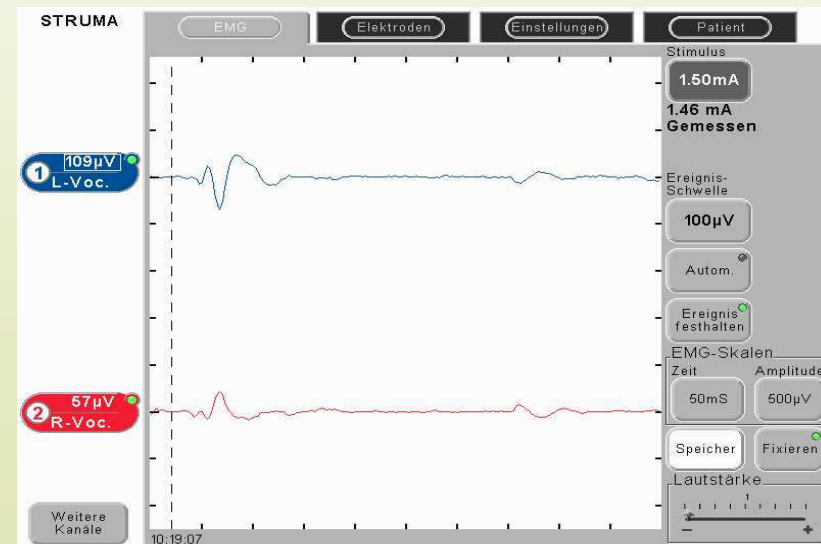
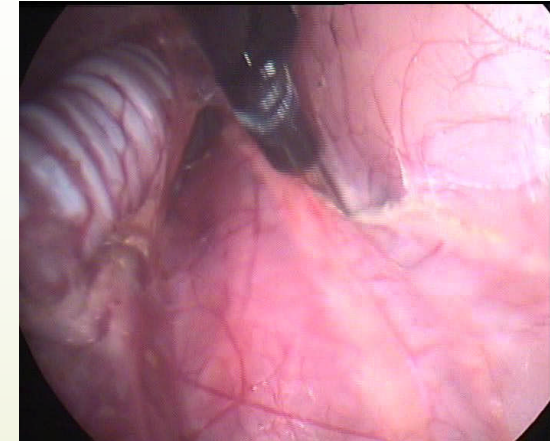
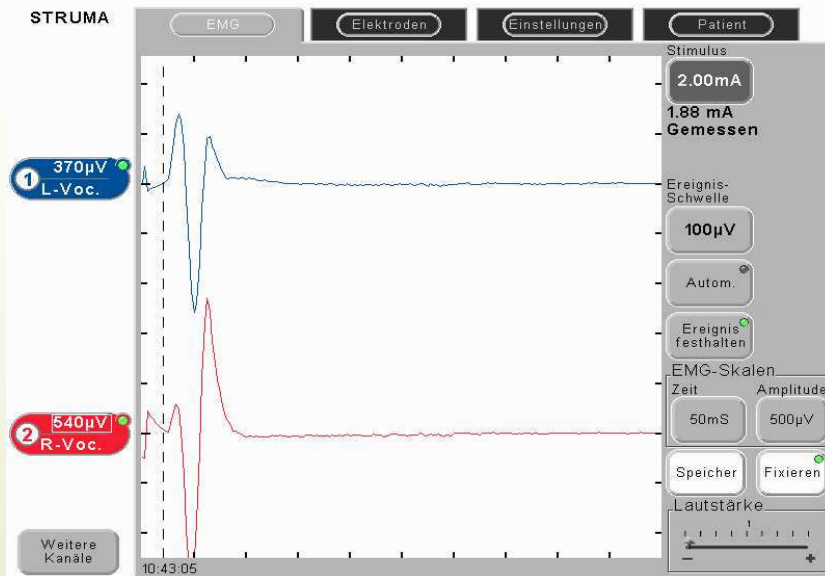
# Results II

- Successful Neuro-monitoring in 18/20 cases
- Cosmetic aims
- No complications until 2 hrs. after resection



[Video](#)

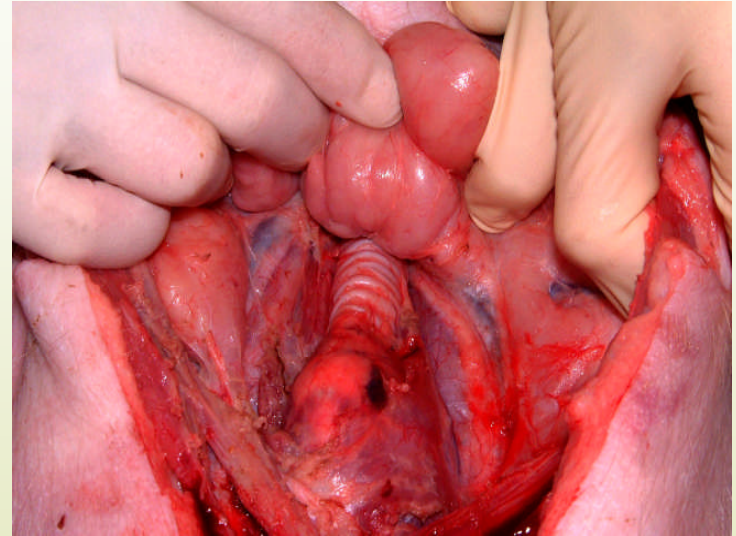
# Importance of neuro-monitoring



Dralle H et al: Risk factors of paralysis and functional outcome after recurrent laryngeal nerve monitoring in thyroid surgery (Surgery 2004;136:1310-22.)

# Discussion

- This technique is endoscopic and minimally-invasive
- Is there a higher risk of infection?
- Is the transoral resection possible in patients?
- Long-term-results?



# The Future of Thyroid Resection

- minimally-invasive?
- video-assisted?
- ultrasound dissection?
- neuro-monitoring?
- endoscopic?

