

Advances in Head and Neck Cancer Surgery

头颈癌外科手术的进展

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Advances in Surgery

(外科手术的进展)

- The last two centuries has seen great advances in surgery
(前两个世纪, 外科手术发展迅速)
- Technology has made surgery better and safer
(科技让外科手术更好更安全)



Advances in Surgery

(外科手术的进展)

- Research has told us...
who to operate on
when to operate
how to operate

(科研告诉我们应该在哪类病人身上什么时候以及怎样进行手术)

- Combined treatment is often better than one type of treatment alone
(多种方式结合治疗效果好过于单一方式治疗)

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Concurrent Chemotherapy and Radiotherapy for Organ Preservation in Advanced Laryngeal Cancer

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ABSTRACT

BACKGROUND

Induction chemotherapy with cisplatin plus fluorouracil followed by radiotherapy is the standard alternative to total laryngectomy for patients with locally advanced laryngeal cancer. The value of adding chemotherapy to radiotherapy and the optimal timing of chemotherapy are unknown.

METHODS

We randomly assigned patients with locally advanced cancer of the larynx to one of three treatments: induction cisplatin plus fluorouracil followed by radiotherapy, radiotherapy with concurrent administration of cisplatin, or radiotherapy alone. The primary end point was preservation of the larynx.

RESULTS

A total of 547 patients were randomly assigned to one of the three study groups. The median follow-up period was 3.8 years. At two years, the proportion of patients who had an intact larynx after radiotherapy with concurrent cisplatin (88 percent) differed significantly from the proportions in the groups given induction chemotherapy followed by radiotherapy (75 percent, $P=0.005$) or radiotherapy alone (70 percent, $P<0.001$). The rate of locoregional control was also significantly better with radiotherapy and concurrent cisplatin (78 percent, vs. 61 percent with induction cisplatin plus fluorouracil followed by radiotherapy and 56 percent with radiotherapy alone). Both of the chemotherapy-based regimens suppressed distant metastases and resulted in better disease-free survival than radiotherapy alone. However, overall survival rates were similar in all three groups. The rate of high-grade toxic effects was greater with the chemotherapy-based regimens (81 percent with induction cisplatin plus fluorouracil followed by radiotherapy and 82 percent with radiotherapy with concurrent cisplatin, vs. 61 percent with radiotherapy alone). The mucosal toxicity of concurrent radiotherapy and cisplatin was nearly twice as frequent as the mucosal toxicity of the other two treatments during radiotherapy.

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(头颈癌外科手术的进展)

- Better imaging and planning (更好的影像跟计划)
- Better surgical techniques (更好的外科手术技术)
- Better repair and reconstruction
(更好的修复以及重建)
- Better rehabilitation and restoration
(更好的康复和恢复)

Advances in Head and Neck Surgery

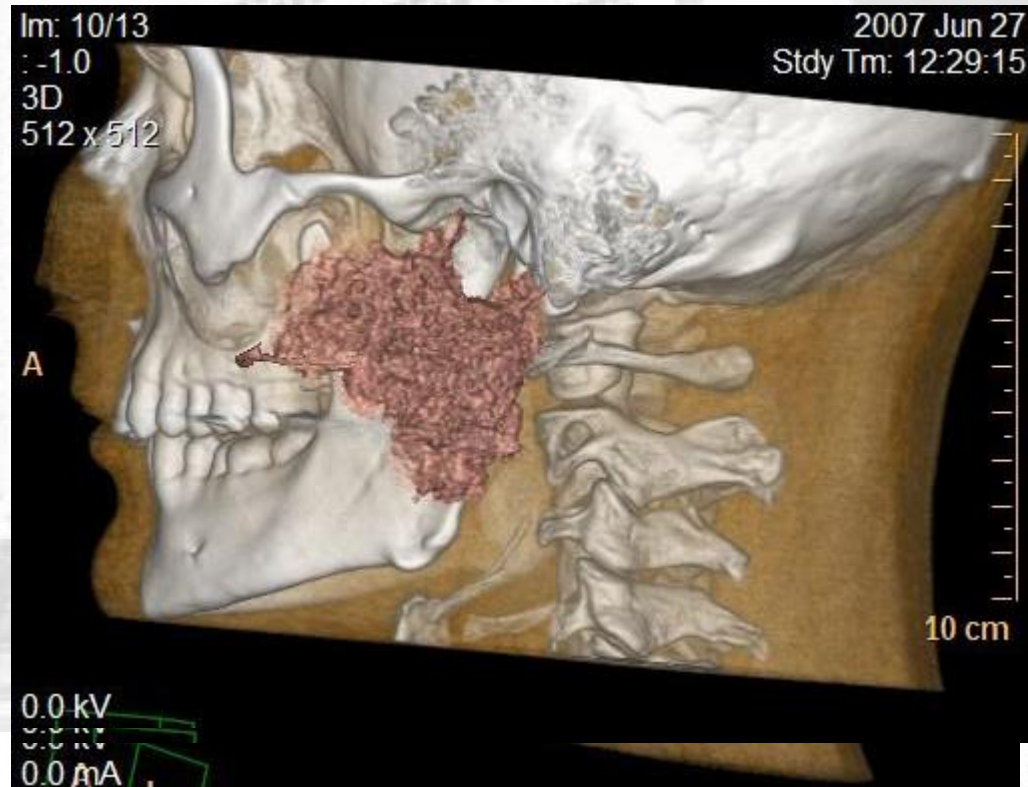
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Better imaging, better planning

(更好的影像跟计划)

- Scanning technology has resulted in better image resolution
(扫描科技的进步带来更清晰的影像)



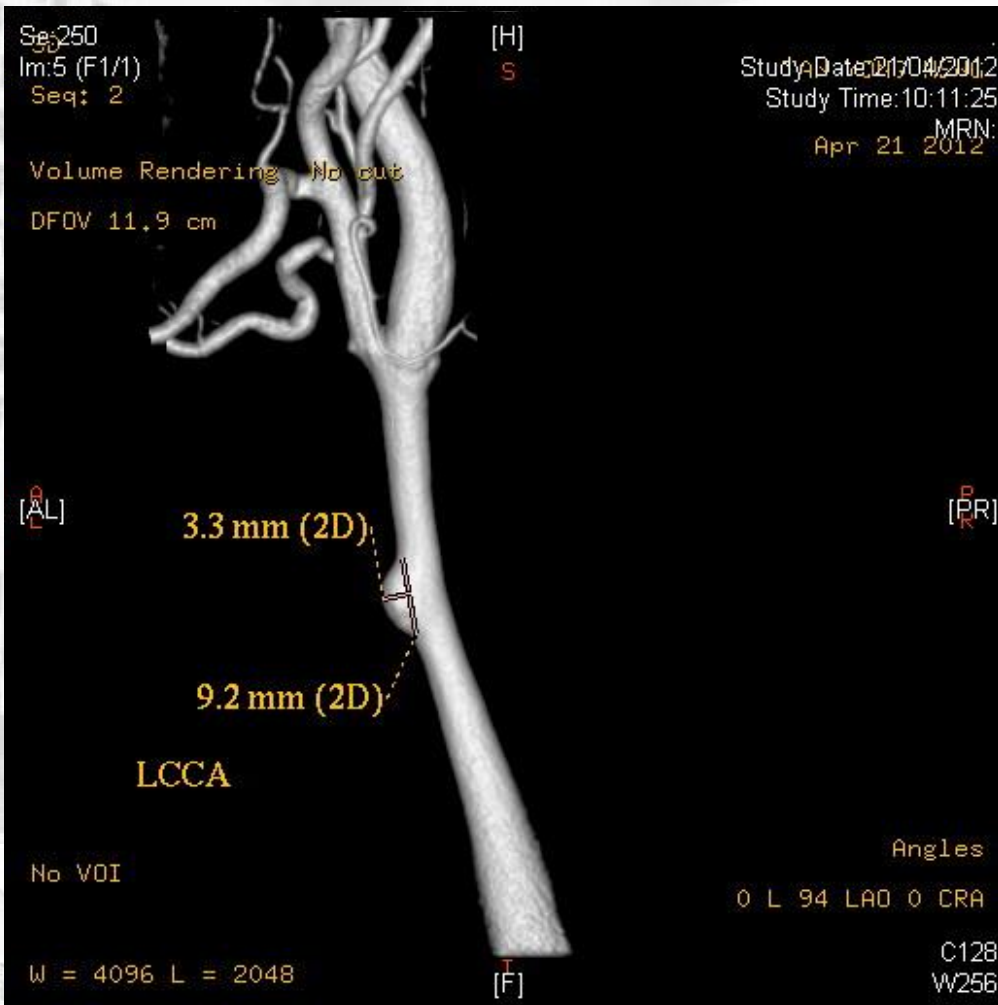
Better imaging, better planning

(更好的影像跟计划)

- Some procedures can now be performed with x-ray guidance
(某些手术过程在可以在x光线的引导下进行)
- This is known as interventional radiology
(简称介入放射学)



Interventional radiology (介入放射学)



Interventional radiology (介入放射学)

Pre-stenting (置入支架之前)



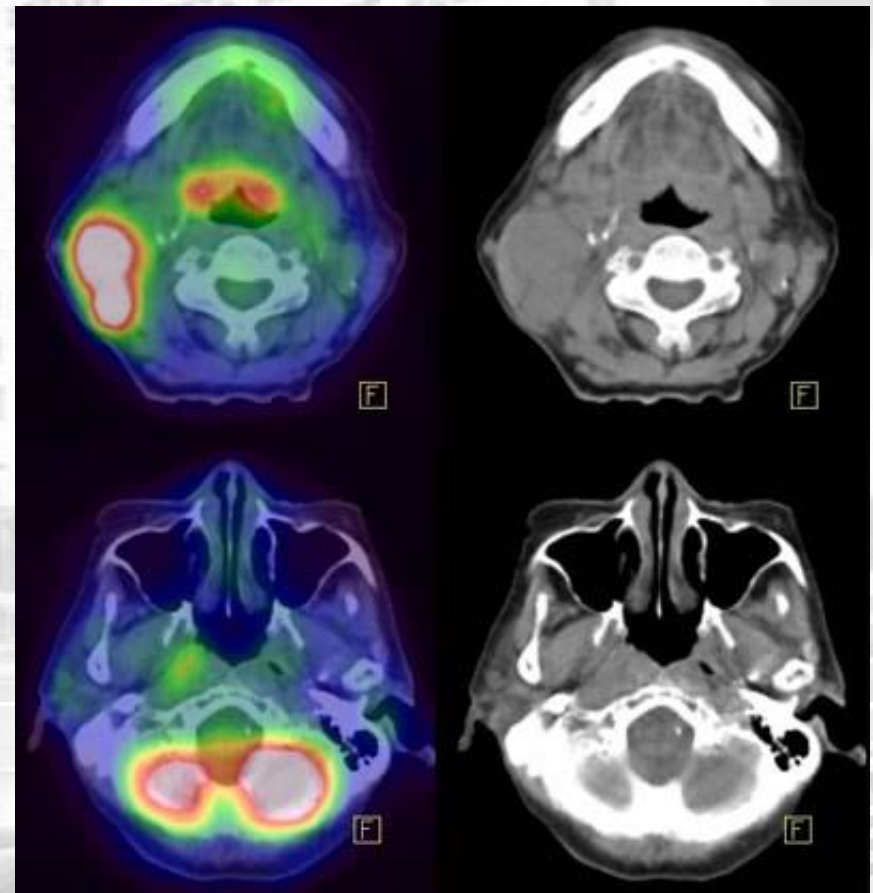
Post-stenting (置入支架之后)



Better imaging, better planning

(更好的影像跟计划)

- PET scans can identifying tumours as small as 5 mm
(PET 可以侦察到5毫米大小的肿瘤)



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Minimal access surgery (微创手术)

- Surgery can now be performed through very small incisions
(现代的外科手术可以通过小切口来完成)
- Surgery can now be performed through natural openings
(现代的外科手术也可以通过身体的自然创口来完成)



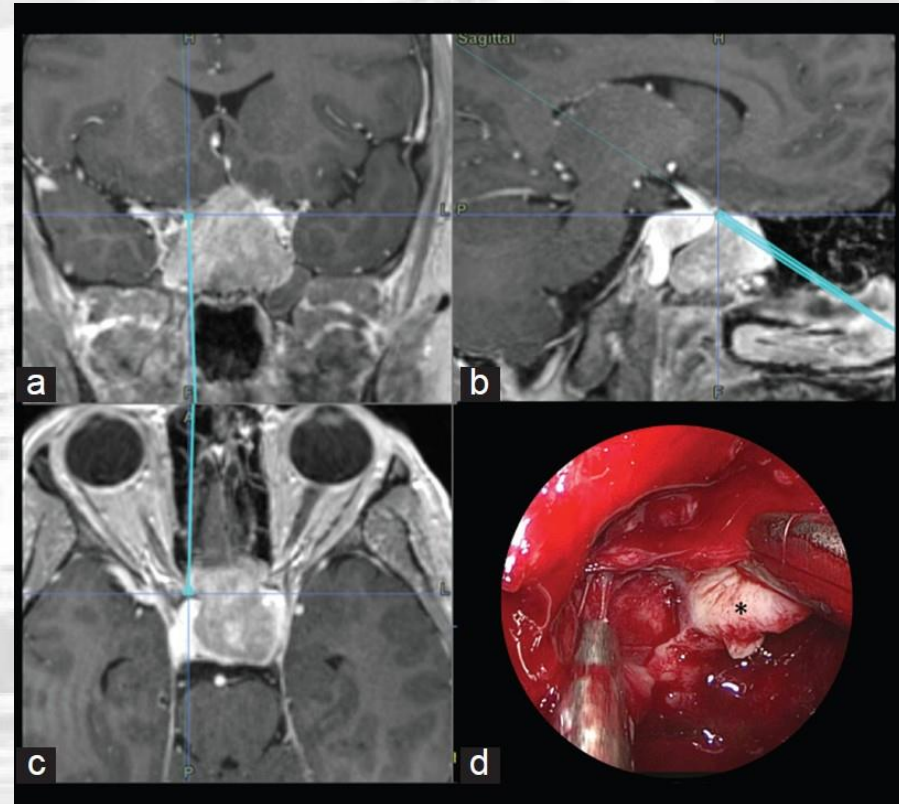
Surgical navigation (手术导航系统)

- We can now use ‘radar-like’ navigation systems to localise our surgical instruments in the body

(现在我们可以利用像雷达一样的导航系统来定位手术器械在身体内的位置)

- This ensures important structures are not inadvertently damaged

(这样可以减少在手术过程中对重要器官无意的损害)

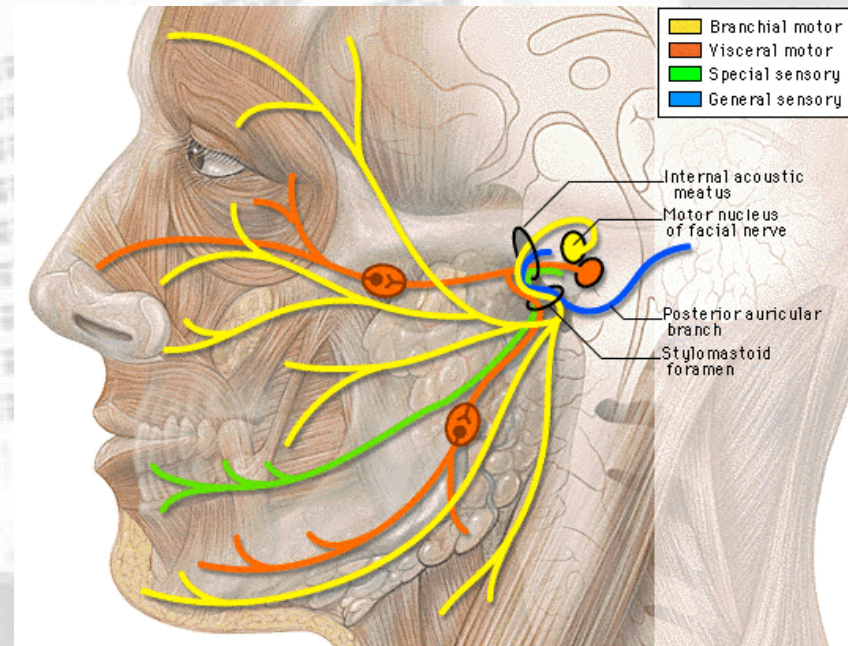


StealthStation® | S7™

Nerve integrity monitoring

(监测神经完整性)

- Nerve monitoring ensures that important nerves are preserved during surgery
(监测神经来确保重要神经线在手术中得到保存)
- This can be useful in thyroid and salivary gland surgery
(监测神经在甲状腺和唾液腺的手术中尤为重要)



Laser surgery (激光手术)

- Laser allows for precise and bloodless surgery (激光手术能在不出血的情况下体现了更高的准确性)
- Laser surgery offers a viable alternative to radiotherapy in some early cancers (在某些早期癌症病患中，激光手术可以提供可行的放疗替代疗法)



Robotic surgery (机器人外科手术)

- The robot has 4 small arms that can perform complex movements in small spaces

(机器人有四个很小的臂, 可以在有限的空间内完成复杂的动作)

- The surgeon is in complete control of the robot at all times

(外科医生可以每时每刻完全控制机器人)



Robotic surgery (机器人外科手术)

- In the head and neck, robotic surgery is performed for selected throat cancers and thyroid gland disease

(在头部和颈项部位, 机器人外科手术主要用于某些肺癌或者甲状腺癌的病患)



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Free flap reconstruction

(游离组织瓣修复术)

- We can transfer skin and muscle with its own blood supply to another part of the body

(我们可以连同血管供应一起从身体别的地方来移植皮肤和肌肉组织)

- It is also possible to transfer the nerve supply

(也有可能一同移植神经供应)



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(更好的康复和恢复)

Voice restoration (发音重建术)

- After a laryngectomy, it is possible to restore voice by fitting a special valve

(做完喉切除术后，可以通过放置专用阀门来恢复发音)

[Play Video 1](#)

Laryngeal transplantation (喉移植)

UC Davis Health System

larynx transplant restores voice to California woman



Extraordinary larynx transplant restores voice to California woman World's second documented voicebox transplant

In one of the most complex transplant surgeries ever performed, an international team of surgeons at UC Davis Medical Center has restored the voice of a California woman who had been unable to speak for more than a decade.

The surgical team announced that they replaced the larynx (voicebox), thyroid gland and trachea (windpipe) in a 52-year-old Modesto, California, woman who had lost her ability to speak and breathe on her own. The 18-hour operation, which took place over a two-day period in October 2010, is only the second documented case of its kind in the world. Just 13 days after the operation, the patient voiced her first words in 11 years and is now able to speak easily and at length.

"This operation has restored my life," says Brenda Charett Jensen, who was raised in the San Joaquin Valley town of Patterson, Calif. "I feel so blessed to have been given this opportunity. It is a miracle. I'm talking, talking, talking, which just amazes my family and friends."

The only other documented larynx transplant took place at the Cleveland Clinic in 1998. For the physicians in this case, the novel procedure has advanced knowledge in the field of transplant medicine and otolaryngology.

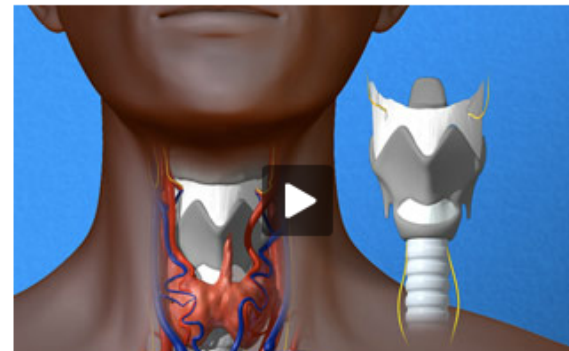
Related links

- [Surgery team bios](#)
- [Larynx transplant Q&A](#)
- [Press release](#)

"We are absolutely delighted with the results of this extraordinary case," said Gregory Farwell, associate professor of otolaryngology at UC Davis and lead surgeon for the transplant. "The larynx is an incredibly complex organ, with intricate nerves and muscles functioning to provide voice and allow breathing. Our success required that we

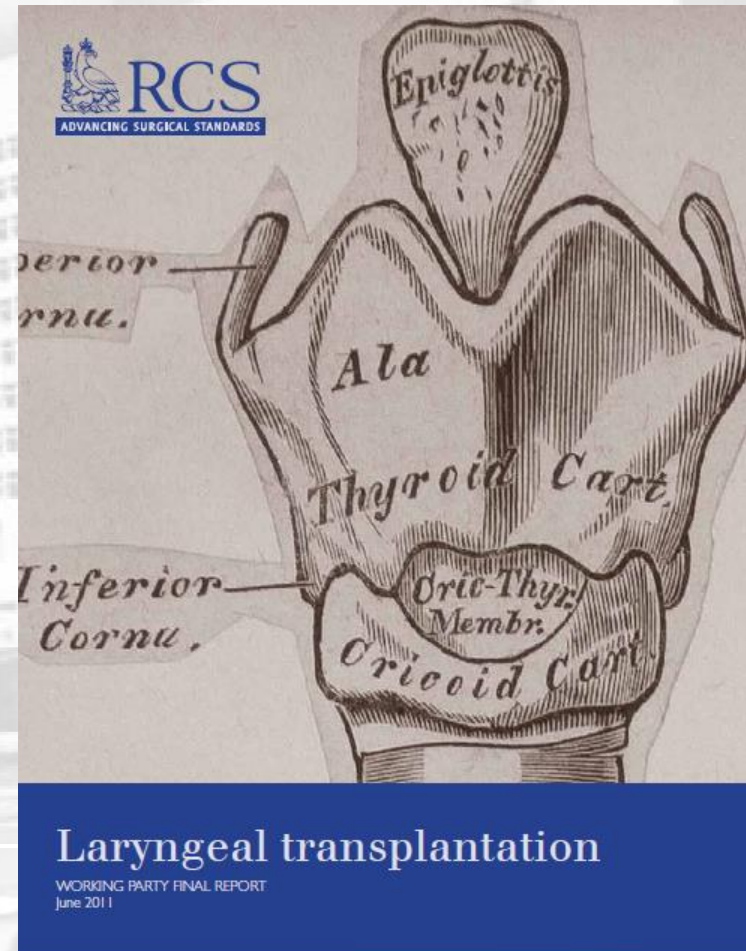


Learn more about this remarkable story



Laryngeal transplantation (喉移植)

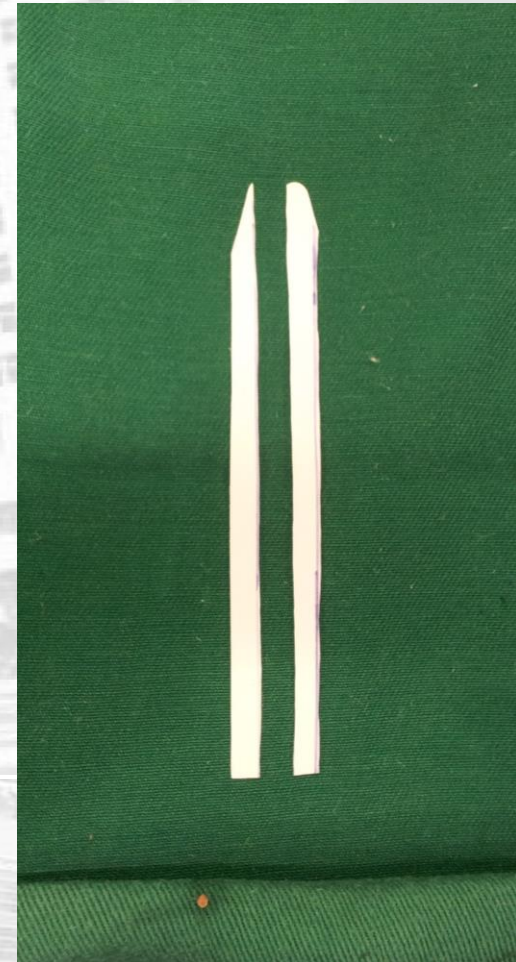
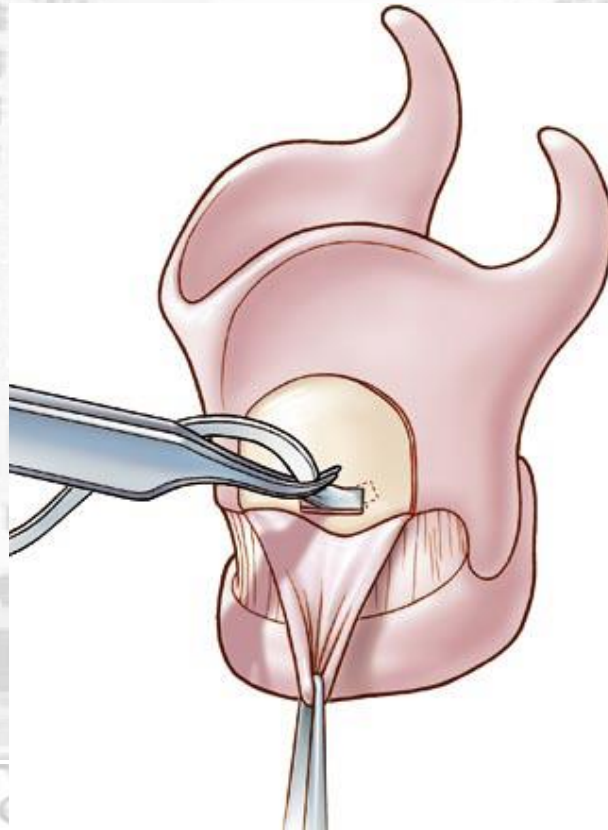
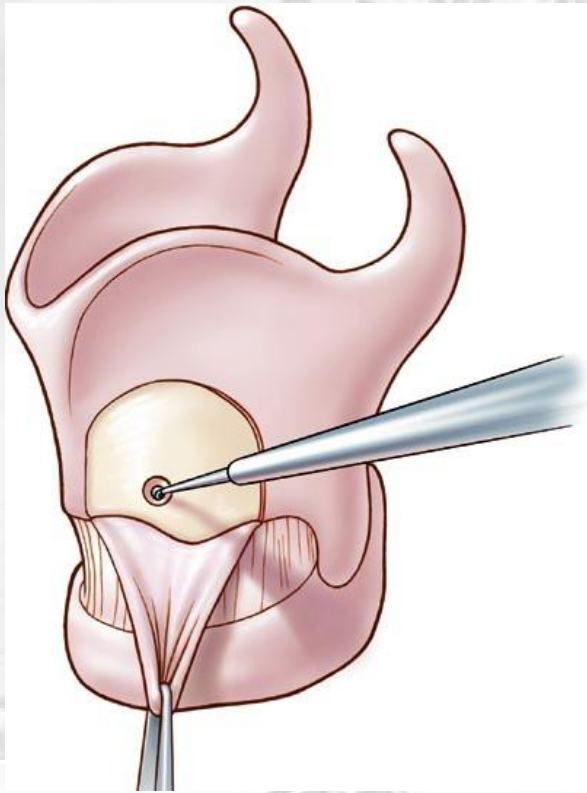
- Laryngeal transplantation has only been done twice (喉移植只进行过两次)
- It is presently not suitable for people who have had cancer (目前情况来看不太适合癌症病患)



Vocal fold augmentation (声带增强术)

[Play Video 2](#)

Vocal fold augmentation (声带增强术)



Vocal fold augmentation (声带增强术)

[Play Video 3](#)

Complications...

The only surgeon who doesn't experience *complications*, is the surgeon who doesn't do much surgery."

(只有不常做手术的外科医生在手术时才不会出现术后并发症)



Thank you

谢谢

