Bilateral facial reanimation
Case study

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Jan Macek

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Case report: Introduction

24-year-old woman after bilateral acoustic neuroma resection (with complete loss of hearing)

Bilateral iatrogenic facial paralysis (HB = VI.), lasting 27 months

History of neurofibromatosis 2 and bilateral upper eylid gold implants

Indicated for bilateral facial reanimation (1st stage) and lower lid support by palmaris longus tendon (2nd stage)

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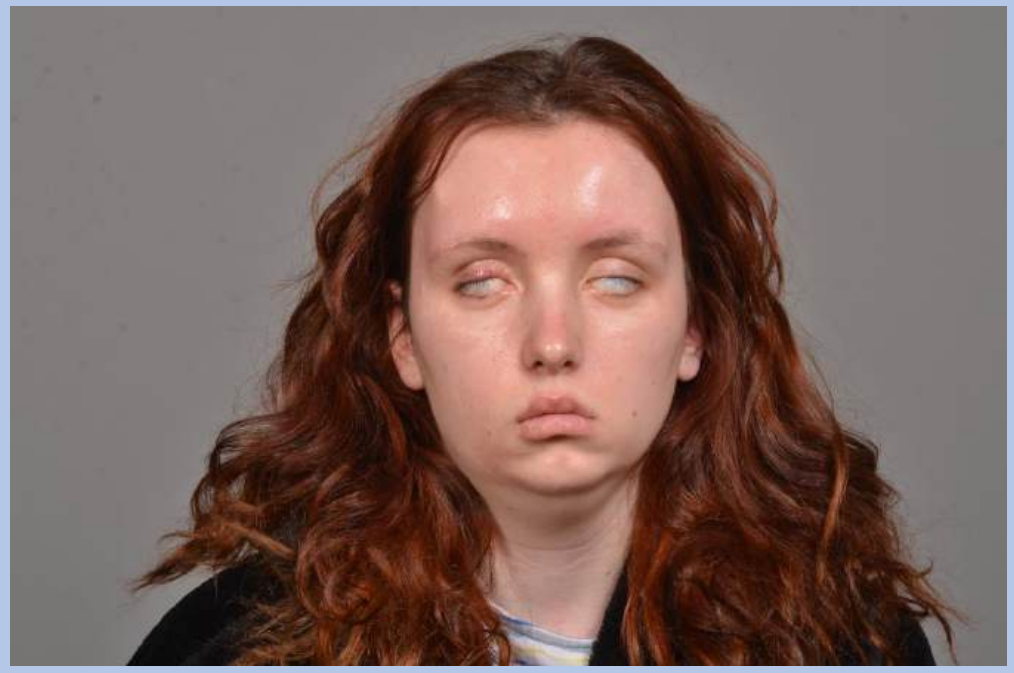
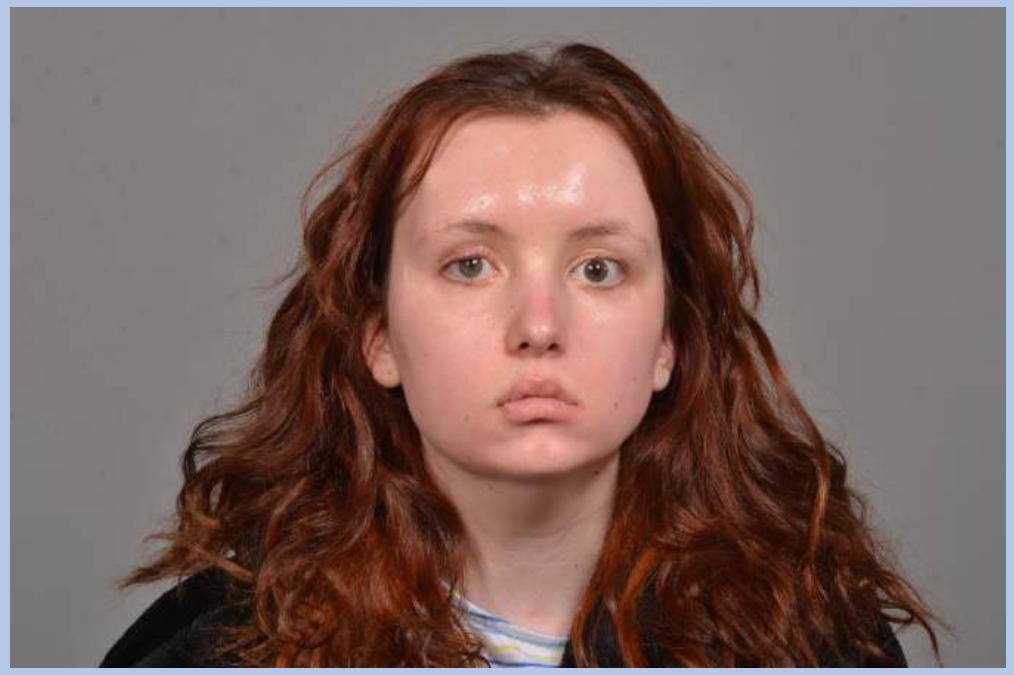
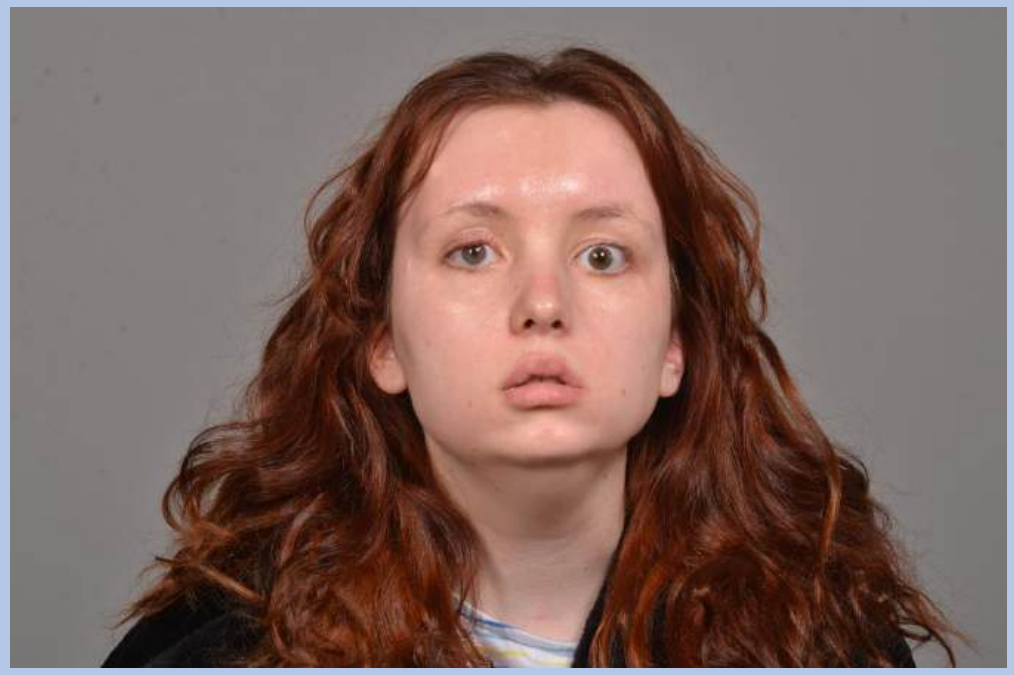
Static



Closed eyes



Smile



“i”

Photos: Libor Streit, KPECH FNUSA

Facial reanimation: Algorithm

Short-standing palsy – functional mimic muscles

- Facial nerve reinnervation (contralateral N. VII, ipsilateral N. V)

Long standing palsy

- Static procedures
- Free functional muscle transfer (as described by Dr. Bayezid)
- Local muscle transfer (as described by Dr. Rotschein)

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Facial reanimation: Preoperative evaluation

- Clinician-graded evaluation (HB-score, eFACE)
- QOL evaluation (FACE, FPD-Q)
- EMG – mimic and masticatory muscles
- Ultrasound

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Case report: Surgical procedure

Bilateral free gracillis muscle transfer, innervated from the nerve to the masseter

Two team approach (simultaneous harvesting of the gracilis muscle and preparation of the recipient site)

Harvesting of fascia lata grafts, preparation of bilateral gracilis muscle grafts – severe atrophy of the left gracilis muscle

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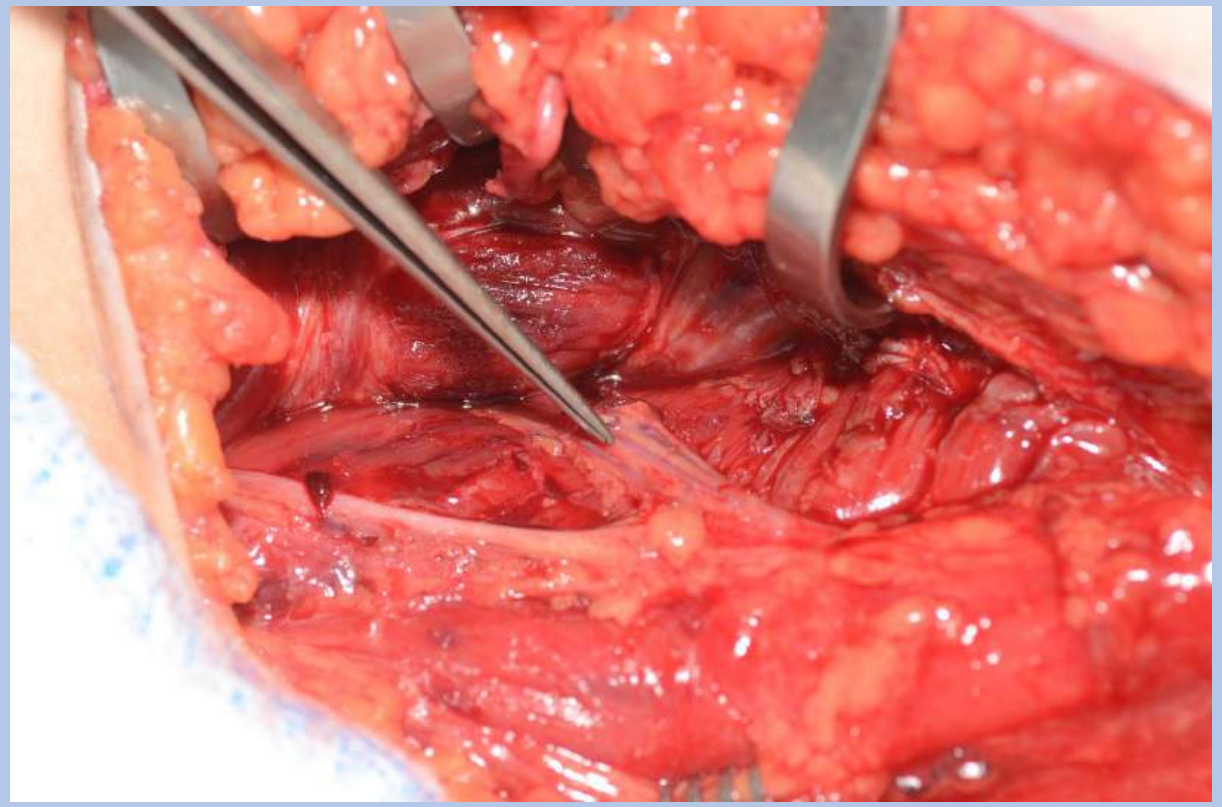
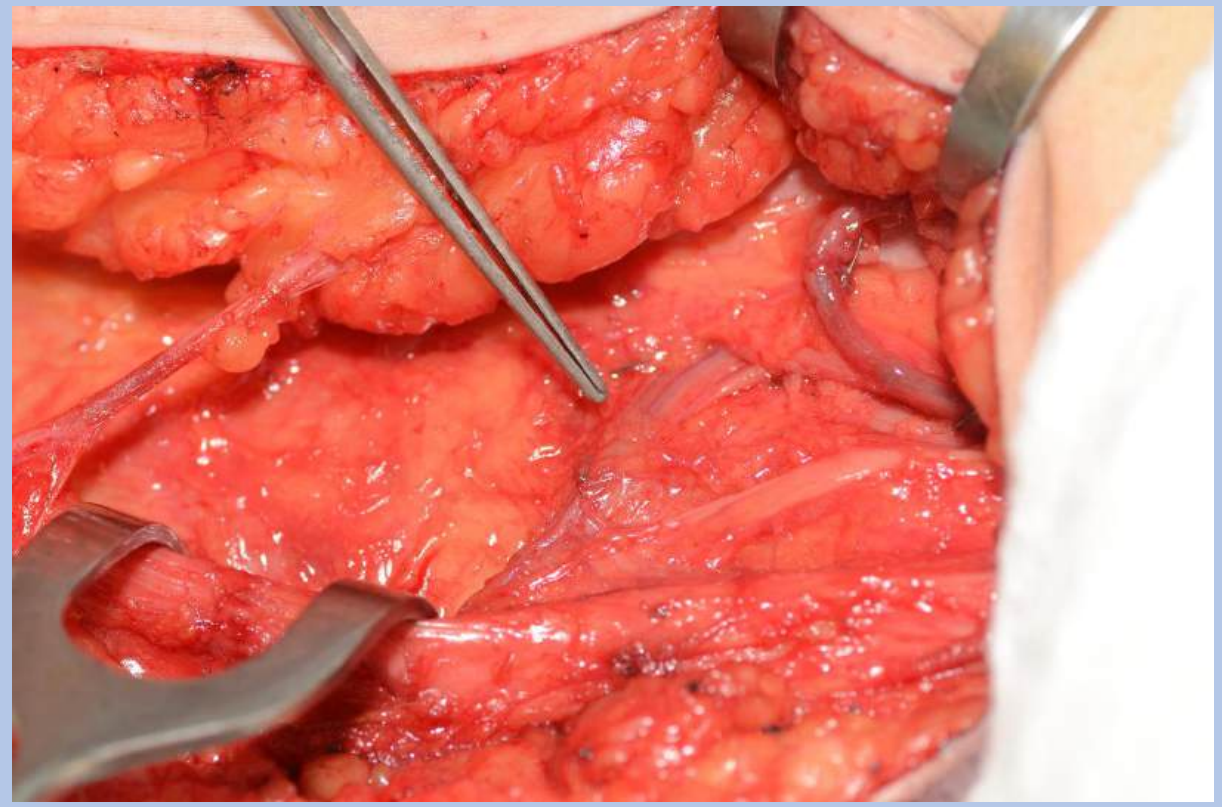


Left side – atrophic gracilis



Right side – healthy gracilis

Photos: Libor Streit, KPECH FNUSA

Case report: Surgical procedure

Conversion of the procedure into bilateral lenghtening temporalis myoplasty by modified Labbé technique

Bicoronal approach, p. coronoideus osteotomy, division of m. temporalis insert into 3 parts and anchoring to SMAS in the nasolabial groove combined with static suspensiom

Fascia lata suspension of the nasal alae and mouth corner

Redon drainage, skin closure

ATB and antiedematic therapy

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Case report: Surgical procedure, 2nd stage

Palmaris longus tendon harvesting

Graft fixation to the canthal ligament

Ostetotomy of the orbital part of zygomatic bone – anchoring point for the tendon graft

Fixation to the lower eylid under gentle traction and skin closure

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Case report: Complications and results

- Infection of the priorly implanted gold weight, resulting in scaring and eyelid retraction
  - Revision surgery after 10 months, using a platinum weight

- Results:
  - HB score of IV.
  - 28% eFACE improvement
  - FPD-Q improvement of?
  - Recovery of spontaneous smile ability

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Photos: Libor Streit, KPECH FNUSA

Static

Closed eyes

Smile

“i”

Photos: Libor Streit, KPECH FNUSA

Facial reanimation: Neurofibromatosis

- Benign focal amyotrophy (nerogenic asymmetric atrophy restricted to lower or upper limbs)
- In this case – atrophy of the left side m. gracilis
- Preoperative EMG would discover the atrophic muscle, preventing donor site morbidity

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Conclusion

- The patient recovered with significant improvements in HB score, eFACE and FPDQ and recovered the spontaneous smile ability
- Bilateral facial reanimation cannot utilize contralateral N. VII
- Preoperative EMG and ultrasound is important to assess mimic musculature and nerve to masseter viability
- In patients with type 2 neurofibromatosis, EMG of the gracilis muscle might be indicated to ensure viability of the muscle

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Any questions?

Thank you for your attention!

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