PLONK: A Mnemonic for Safe Nerve-Preserving Dissection in Head and Neck Surgery

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Introduction

- Injury to the facial, spinal accessory and hypoglossal nerves remains a significant source of morbidity in head and neck surgery, with consequences including facial weakness, shoulder dysfunction, dysarthria and dysphagia
- Nerve-preservation literature centres on landmarks[2–3], approach strategy[4–5] and intraoperative monitoring[6–7]. However, none of these formalize the techniques or steps in act of dissecting an individual tissue bridge once a nerve's course has been approached.
- We describe PLONK, a five-step mnemonic (Push, Lift, Open, Nerve Down, Kut (Cut)) developed to structure the repeated act of dissecting individual tissue bridges during nerve identification and preservation

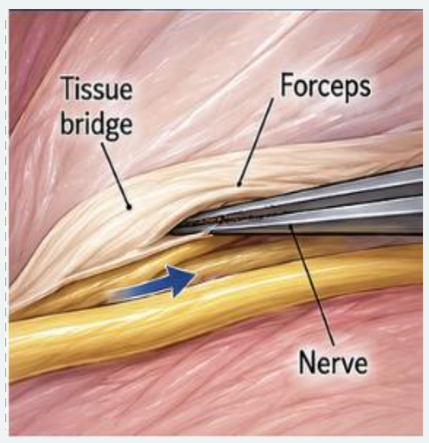
The gap

Existing approach	Tells the surgeon…
Anatomical landmarks	Where to look
Approach strategy	Which direction to work
Nerve monitoring	When a nerve is close
PLONK	**How and when to divide each tissue bridge**

Methods: the PLONK technique

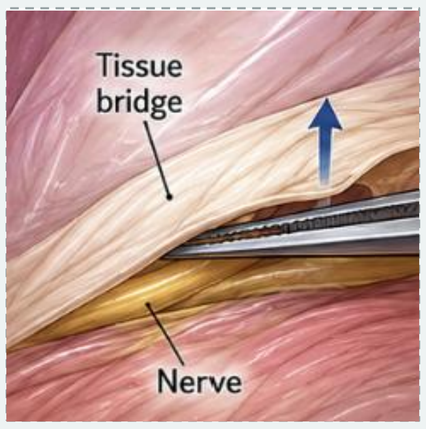
A five-step cycle, repeated for every tissue bridge overlying the known or anticipated course of a nerve. Developed during facial nerve dissection in parotidectomy; since applied to the spinal accessory and hypoglossal nerves.

P Push



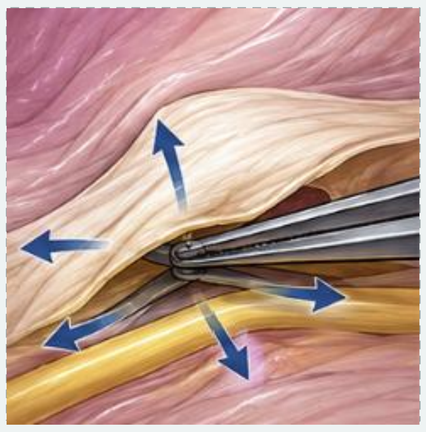
Closed mosquito forceps advanced along the plane beneath the tissue bridge, aimed along the expected nerve course.

L Lift



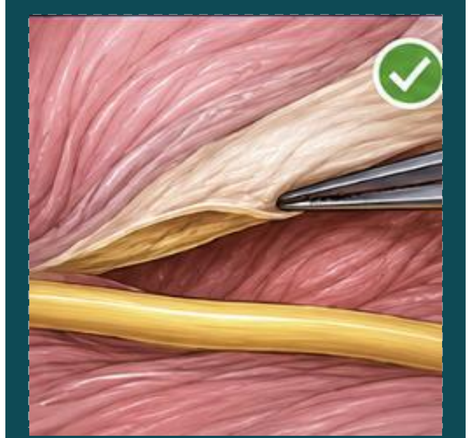
Bridge gently elevated with the forceps, parallel to the nerve plane, separating it from deeper structures.

O Open



Forceps spread in a controlled way to develop the plane, often revealing the nerve.

N Nerve Down



Checkpoint before any cut:
1. Stimulate bridge: no response
2. Stimulate nerve: response
3. See nerve deep to bridge

K Kut (Cut)

Divide the bridge under direct vision (diathermy or ultrasonic device). Repeat for the next bridge.

Figure 1. The PLONK sequence, repeated for each tissue bridge. Where monitoring is unavailable, visual confirmation is the minimum standard for Nerve Down

Discussion

- PLONK codifies, not replaces, established principles: orientation, gentle handling, establishing planes under vision, no blind division[8]
- “Nerve Down” enforces a pause before every cut, countering the drift to divide larger bridges with less scrutiny as confidence grows
- Stimulation gives a check independent of visual interpretation: valuable in distorted, revision or irradiated fields
- Mnemonics improve trainee confidence and consistency in other specialties[9]; PLONK makes a senior surgeon's tacit sequence teachable

Limitations

- Reflects a single senior surgeon's practice; not yet validated
- No data yet on trainee skill acquisition, operative time or complications
- Prospective evaluation of trainee competency and outcomes planned

Conclusion

1. PLONK (Push, Lift, Open, Nerve Down, Kut) is a simple, repeatable cycle for nerve-preserving dissection.
2. It combines tactile, electrophysiological and visual checks before every cut.
3. It offers trainees a practical teaching aid and surgeons a cognitive checklist in head and neck surgery.

References

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