

# Plastering techniques for GPs.

## Part 2: Volar forearm slab

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Part 1 in the previous issue described the technique for a Colles' fracture cast. This part will describe how to apply a volar forearm slab.

This article describes what I do. However, these are only my personal preferences and do not exclude other preferences, techniques and 'tricks of the trade'.

### Volar forearm slab

#### Cautionary notes

Applying a dorsal slab to the forearm that extends over the dorsum of the metacarpophalangeal joints may cause pressure to those joints, with resultant skin breakdown and erosion extending into the joints. I prefer a volar slab.

If one attempts to immobilise the metacarpophalangeal joints in 90° of flexion, the joints may end up in a position of lesser flexion such as 70°, which will be acceptable. However, if one attempts to immobilise the metacarpophalangeal joints at 70°, they may end up at 50° or less, which is not acceptable. When the metacarpophalangeal joints are immobilised in minimal flexion, or extension, the collateral ligaments will be lax and may develop contractures. Contractures may cause fixed flexion deformities of the joints, which can markedly impair hand function and strength. This may be litigious.

#### Requirements

The required materials for a volar forearm slab are (Figure 1):

- one 10 cm plaster roll (such as Gypsona)

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Figure 2. Measuring the slab length.



Figure 4. Resulting plaster layers.

- one roll of padding (such as Soffban)
- a crepe bandage
- sticking tape
- a pair of scissors
- protective covering on the working surface.

#### Procedure

Measure the required length of the slab by placing a length of the plaster roll along the forearm, using the forearm as a template (Figure 2). The slab should not extend so far that it abuts on the antecubital fossa during flexion.

Fold the Gypsona plaster roll back



Figure 1. Materials ready.



Figure 3. Folding the plaster lengths.



Figure 5. Measuring the Soffban padding.

and forth over the measured slab length until the roll is used up (Figure 3). This usually produces a plaster slab that is 8 to 10 layers thick (Figure 4).

Always interpose padding between the plaster and the skin. I lay a length of Soffban over the slab and use the slab as a template to measure out the Soffban. Fold the Soffban over itself to produce a double-layered thickness of padding (Figure 5), and then extend the length of Soffban by fashioning a mirror image at the other end. This produces a double-layered strip of Soffban, twice the length of the plaster slab, which I lay out on my

working surface ready for use (Figure 6).

Pull the plaster slab slowly through the water in the basin (Figure 6), and gently strip off the excess water (Figure 7).

Place the plaster slab on one end of the Soffban strip (Figure 8) and fold the other end of the Soffban over the plaster to produce a 'sandwich' of plaster between the two double layers of Soffban (Figure 9). Wash any excess plaster from your hands before proceeding further (Figure 10).

Place pieces of Soffban between the patient's fingers (Figure 11) for interdig-

ital padding, to protect the intertriginous areas of the fingers (Figure 12).

Place the slab over the volar aspect of the forearm, wrist, hand and fingers, and bandage it in place with a crepe bandage, ensuring all fingertips remain visible. I secure the end of the crepe bandage with sticking tape (Figure 13), and I specifically discard the sharp-pointed strap that is supplied with a crepe bandage. (I prefer to avoid pins and sharp-pointed devices that may prick or irritate the skin.)

While the plaster slab is still wet, mould it into the palm (Figure 14) and

position the wrist and fingers as required. In this case, the 'classic' position is demonstrated, with the wrist slightly extended, the metacarpophalangeal joints flexed to 90°, and the interphalangeal joints in extension (Figure 15). In the classic position, the collateral ligaments of the metacarpophalangeal and interphalangeal joints are held taut, to prevent inadvertent contractures occurring during the period of splinting. However, depending on the specific requirements of each case, the treating doctor may elect to splint the hand and



Figure 6. Pulling plaster through water.



Figure 7. Gently stripping off excess water.



Figure 8. Placing plaster slab on Soffban.



Figure 9. Making plaster-Soffban sandwich.



Figure 10. Washing plaster off hands.



Figure 11. Placing Soffban between fingers.



Figure 12. Protecting the intertriginous areas.



Figure 13. Securing the crepe bandage.



Figure 14. Moulding into the palm.

continued



Figure 15. The 'classic' position.



Figure 16. Checking normal elbow flexion.



Figure 17. Checking fingertips are visible.



Figure 18. The slab as a removable splint.

fingers in a different position.

Once the plaster has hardened, secure the slab in place with a second crepe bandage. Overlap the crepe bandage by 50% on each successive turn to ensure an even application of force.

### Has it been applied correctly?

A correctly applied volar forearm plaster

slab will:

- provide even moulding of the slab to the forearm and palm
- allow normal elbow flexion – as mentioned before, the plaster slab should not extend so far proximally that it abuts on the antecubital fossa during flexion (Figure 16)
- incorporate padding between the

fingers to prevent intertriginous irritation (Figure 17)

- have all fingertips visible – this ensures that the vascular status can be checked accurately (Figure 17)
- support the wrist, hand and fingers in correct position – if the treating doctor chooses the classic position, the wrist will be immobilised in slight extension, the interphalangeal joints will be in extension and the metacarpophalangeal joints will be in 90° of flexion (Figure 15).

### Final trick of the trade

If a plaster slab is made in the manner described above, there will be little leakage of the plaster of Paris out of the Soffban 'sandwich'. The crepe bandage can then be easily removed and the moulded volar slab can be retrieved for use as a removable splint when required – for example, as a 'night splint' (Figure 18). **MT**

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