

How to Perform a Punch Graft

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Facts & Indications for Punch Grafting

- Punch grafts are small, full-thickness plugs of skin that are harvested and implanted into granulation tissue using skin biopsy punches.
- Inexpensive (performed on standing horses), no need for sophisticated equipment or advanced expertise.
- Usually reserved for small wounds where cosmesis is not paramount.
- Relatively good success rate even in recipient beds that are unsuitable for sheet grafting.
- The following outcome can be expected: Wound covered by an epithelial scar with sparse tufts of divergent hair.

Equipment Requirements

1. Two sizes of biopsy punches (4 & 5mm or 5 & 7mm)
2. Number 11 scalpel blade
3. Suture material or staples
4. Bandaging material

Recipient Site – Requirements & Preparation

- Healthy granulation tissue – Salmon pink, flat, level with wound edges, often with a white rim and free of contamination / infection.
- Granulation tissue is scrubbed, followed by a final saline rinse.

Donor Site – Possible Locations, Preparation & Graft Collection

1. Best donor sites: Neck under the mane, ventral abdomen, pectoral region or perineum.
2. Clipped, scrubbed with a final saline rinse & desensitised with local anaesthetic solution.
3. Grafts are collected using a 5 or 7mm biopsy punch and a scalpel is used to cut the graft free from the underlying tissue and to remove subcutaneous tissue from the graft itself.
4. Donor site punch holes are closed using suture material or staples.



Graft Implantation

1. Starting at the most ventral part of the wound, the recipient holes are created with a slightly smaller biopsy punch than the one used to harvest the grafts, to account for primary contraction of the graft (i.e. 5mm recipient hole for 7mm grafts). The holes should be created about 6 mm (1/4 inch) apart in a symmetrical pattern.
2. A broken-off cotton bud is inserted into the recipient holes – this prevents a blood clot from forming in the hole.
3. Grafts are inserted into recipient holes with the hair oriented in the proper direction and the grafted wound is covered with a non-adherent dressing and a bandage.



Aftercare & Outcome

- The pigmented, superficial portions of the grafts frequently slough, exposing non-pigmented deeper layers. By 3 weeks, each plug of skin is surrounded by a red ring of migrating epithelium. Survival of 60 – 75% of the grafts is a realistic expectation.
- The time required for the wound to completely epithelialise is inversely proportional to the percentage of wound surface covered by viable plugs.