

## THE REPLACEMENTS:

Initially, a horse who has undergone an amputation wears a temporary prosthesis until the stump heals.

Young horses, however, may go through several temporary artificial limbs as they grow and develop.

When healing and/or growth is complete, the horse is fitted with a permanent prosthesis (below), the exact design of which varies from case to case.



COURTESY, TED VLAHOS, DVM (TOP)

the patient and grafting it into the stump either at the time of surgery or, in some cases, one or two weeks afterward. As the frog tissue grows, it forms what Redden describes as “a wonderful, tough, resilient material” that protects the bottom of the stump. Prior to frog grafting, the amount of muscle and tissue that remained after surgery wasn’t always sufficient to adequately shield the bone end. The result was painful pressure and trauma that eventually necessitated euthanasia.

Grafted frog tissue does require periodic attention: It grows just as it does on the hoof, so it must be trimmed regularly to ensure the prosthesis’ fit.

Once the amputation is complete, the surgeon applies a fiberglass cast that incorporates the temporary prosthesis attached to the transfixation pins. The horse is then placed in the all-important sling to recover from anesthesia. “Our biggest complication used to be fracture of the limb during recovery,” says Vlahos. “However, we’ve all but eliminated the incidence of that with angular pin placement and sling recovery.” If all goes well, the horse bears weight on the prosthesis immediately following surgery and is able to walk comfortably.

“I’ve had experiences with horses who lived with extremely painful conditions for months before amputation,” says Grant. “They wake up sore after surgery, but the deep gnawing pain is gone and you can almost see the relief on their faces.”

### Recovery and aftercare

Complete recovery from amputation surgery can take anywhere from six months to a year, during which time the horse likely will live at the equine hospital for intensive care and management. The fiberglass cast and temporary prosthesis will be refitted at least once, and possibly several times, as the stump heals. Each cast change requires that the horse be sedated and placed in a sling. The pins are removed once healing is well under way, which takes between eight and 12 weeks. The horse then will bear weight directly on the temporary prosthesis. In the best cases, the horse is fitted for a permanent prosthesis three months after the pins are removed; six months following surgery, he can be turned out in a small enclosure with quiet companions.

During the recovery period, any number of complications can arise, from infections to stump pain to pressure sores. Some horses, says Grant, never learn how to lie down with an artificial limb. “If you get a horse that won’t lie down, it can be a big problem,” he says. “It puts a lot of stress on all the limbs. I’d love to teach one to lie down on command before an amputation. I think that might avoid some of those problems.” Vlahos says he isn’t comfortable labeling a procedure a success until a year has passed. “I think that if we can get a horse through the first year without complications, then there’s no reason to think he can’t live out his life comfortably,” he says.

Once an amputee goes home, his daily care isn’t complicated, but it does require extreme diligence and commitment. Most prosthetic limbs have to be