In: **49th Annual Convention of the American Association of Equine Practitioners, 2003, New Orleans, Louisiana**, (Ed.)
Publisher: American Association of Equine Practitioners, Lexington KY
Internet Publisher: Publisher: International Veterinary Information Service (www.ivis.org), Ithaca, New York, USA.

# How to Manage the Stallion with a Paralyzed Penis for Return to Natural Service or Artificial Insemination (21-Nov-2003)

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**Abstract**
Penile paralysis may not necessarily end the breeding life of a stallion. Collection of semen can often be achieved using a combination of methods to increase libido and increase stimulation and sensation of the penis as well as to pharmacologically enhance erection and ejaculation. Similar methods have been useful for returning stallions to natural service breeding.

## 1. Introduction

Penile dysfunction is a common sequelae of priapism and paraphimosis and is most commonly associated with trauma or anesthesia. Specific long-term dysfunction typically includes inability to withdraw the penis into the prepuce and inability to achieve fully tumescent erection. Depending on the degree of dysfunction, many stallions can be managed for breeding, particularly for semen collection to be used in artificial insemination (AI), even with severely compromised erectile capacity. In 1992, we reported a case of a Thoroughbred stallion with severely compromised erectile function who returned to natural service with manual stimulation and assisted insertion [1]. We recently have worked with another similarly compromised Thoroughbred stallion that has been able to return to natural service breeding. This presentation will review methods employed to maintain the chronically exposed penis and to facilitate collection of semen or natural cover in stallions with severe erectile dysfunction.

## 2. Materials and Methods

Specific aspects of care that seem important to the return of a stallion with a paralyzed penis to breeding include care of the exposed penis, maintenance of high libido to facilitate ejaculation with sub-optimal sensation, maximization of sensation and stimulation of the penis during breeding or semen collection, and use of pharmacologic aids to enhance erection and ejaculation.

### Care of the Exposed Penis

In most cases of paralyzed penis, maintaining the health of the exposed penis represents a considerable challenge. The dependent penis quickly becomes edematous with thickened keratotic changes and "crack" lesions to the surface. Although labor intensive, keeping the penis bundled up against the body wall and maintaining a moist surface with two to three daily applications of emollient cream can greatly improve the condition of the penis. Most porous supportive fabrics that allow urine to drain, such as netting materials, tend to "score" the surface of the penis. We learned from a client that fabric known as "stretch lace" (available at full service fabric stores and on-line specialty fabric houses) can be applied as a belly wrap and is effective for slinging the penis up against the abdomen. For most stallions, a cut measuring 0.5 x 3 m provides sufficient material to wrap and self-tie into a quick-release bow. The back (soft, non-lace) side of the fabric does not cause surface-scoring lesions. The fabric allows urine to pass and dries very quickly, limiting urine scalding. In the past, we have used bovine udder creams applied twice daily, and in one recent case, we found that 2% testosterone cream seemed especially helpful in keeping the penile surface healthy and in enhancing penile sensation. The testosterone cream also seemed to cause a slight elevation in circulating testosterone levels, which may have been additionally helpful for enhancing libido.

**Maintaining High Libido**
For most stallions without an erection, a high level of sexual arousal seems to facilitate ejaculation. To enhance libido, we recommend housing with mares and away from other stallions and ample teasing with judicious handling, which encourages strong stallion-like behavior. If needed, we currently recommend the simple gonadotropin-releasing hormone (GnRH) decapeptide (50 μg, SC, q 2 h and again 1 h before breeding) [2]. This typically results in a doubling of circulating testosterone levels at the time of breeding, which seems to improve arousal and sensation of the penis in at least one-half of treated stallions. If necessary, testosterone can also be used at low levels to boost sexual arousal (80 mg aqueous, SC, every other day) without adversely affecting spermatogenesis [2].

**Increasing Sensation of the Penis**
In stallions without an erection and with compromised penile sensation, we have found that hot, wet compresses or moist heat therapy packs, applied to the base of the penis, are most useful for stimulating a thrusting motion adequate for ejaculation. Similar stimulation of the glans penis may or may not be useful, depending on the apparent remaining distal sensation.

**Enhancing Erection and Ejaculation**
We recommend imipramine hydrochloride (1 mg/lb, orally, 2 h before breeding) for enhancing erection and ejaculation before semen collection or natural service in the stallion [2].

**Pharmacologic Induction of Ejaculation**
For stallions breeding by AI, or to evaluate semen in stallions breeding by natural cover, pharmacologically induced excopula ejaculation can be useful for collection of semen. Currently, we recommend using our most successful regimen: imipramine hydrochloride (1 mg/lb, orally) 2 h before xylazine (0.25 mg/lb, IV). Alternative methods include detomidine and prostaglandin $F_{2}\alpha$ [3].

**3. Results and Discussion**
Of approximately 30 cases, we estimate that 80% of the stallions for both referral and consult cases have successfully continued breeding by AI. Additionally, we have worked with two severely affected Thoroughbred stallions and both were able to ejaculate with manual stimulation and manual insertion that met the Jockey Club's definition of natural cover.
It is our impression that it often takes considerably more effort to get a stallion with a paralyzed penis to ejaculate the first time, than after he has once succeeded. Just as with some novice breeding stallions, it seems that once a stallion "learns" that he can achieve ejaculation with assistance, he settles into a pattern of success with seemingly less effort. Therefore, we are encouraged to work diligently to get everything right and make maximum effort initially. We expect that once the horse has a few successes the intense level of arousal and effort may no longer be required. This has been our impression whether for natural cover or for semen collection.

## References

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