



## THE ‘PROUD-CUT’ GELDING

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Misconceptions abound as to the cause of persistent stallion-like behavior in a horse that has been gelded. The term ‘proud-cut’ has been used historically for many of these cases. Traditionally, the term ‘proud-cut’ implies that a part of the epididymis (sperm storage site located adjacent to the testes) was left in the horse at the time of castration. Normally each testis and associated epididymis is removed during castration. However, since the epididymis does not produce testosterone, leaving the structure in a horse would not lead to a continuation of stallion behavior. Stallions that are castrated at an older age may retain some stallion-like behaviors. Although the source of testosterone has been removed, some learned behaviors may persist.

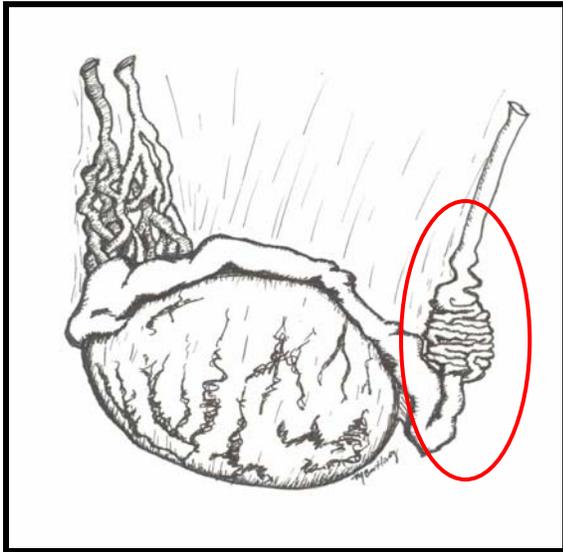
Hormonal diagnostic tests are available to determine if a horse is a true gelding or a cryptorchid stallion. The most commonly used test is the measurement of testosterone levels in the blood. Testosterone is produced by cells within the testes. In the absence of testicular tissue, testosterone levels in the blood should be very low (i.e. less than 100 pg/ml). Intact stallions with two scrotal testes usually have blood testosterone levels of 500 to 1,000 pg/ml or higher. Testosterone level in cryptorchid stallions is higher than that of geldings and usually lower than that of intact stallions (i.e. 100 to 500 pg/ml). Unfortunately,

evaluation of testosterone level in a single blood sample may not be sufficient to differentiate a gelding from a cryptorchid stallion. In those instances, a test called an ‘hCG stimulation test’ may be used. A blood sample is collected just prior to administration of the hormone human chorionic gonadotropin. A second blood sample is collected 1 to 2 hours later. The hCG will cause an increase in testosterone secretion from testicular tissue present in cryptorchid (or intact) horses. No increase in testosterone will be elicited in true geldings. The table below outlines testosterone levels prior to and 1 to 2 hours after administration of hCG in geldings, cryptorchids and intact stallions.

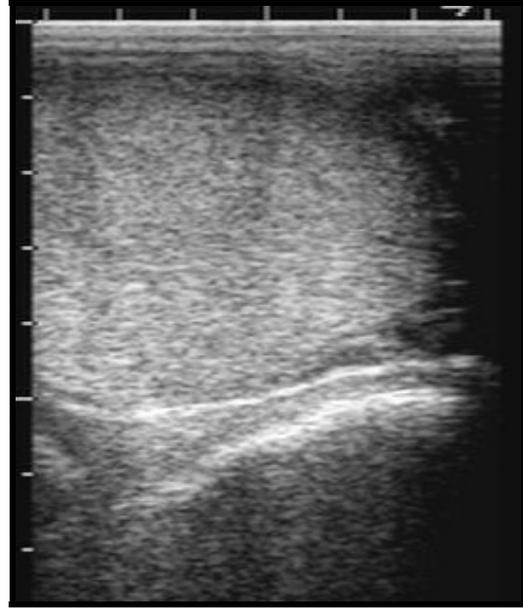
Horse	Testosterone (pg/ml)	
	Pre-hCG	Post-hCG
Gelding	< 100	No change
Cryptorchid	100-500	Increase
Intact Stallion	> 500	Increase

While cryptorchid testes continue to produce testosterone, sperm production within the cryptorchid testes is inhibited due to the higher temperatures within the abdomen as compared to within the scrotum. Consequently, horses with two cryptorchid testes may tease mares, gain an erection, mount and even ejaculate, but are infertile.

It is generally recommended that the retained testes be removed from cryptorchid stallions. Affected horses may exhibit aggressive or stallion-like behavior and have a slightly increased risk of medical conditions such as testicular tumors and torsion of the spermatic cord.



**Drawing of the testis and epididymis in a horse**



**Ultrasound photo of cryptorchid testis in a horse**