

# GYMPIE VETERINARY SERVICES

ABN: 16 069 376 370



## PREGNANCY TESTING MARES

Ultrasound pregnancy diagnosis in mares has become the most reliable way to tell if a mare is in foal early in her pregnancy.

### *How is it done?*

As with traditional pregnancy diagnosis, ultrasounds involve an "internal examination" via the rectum of the mare. The ultrasound probe is held in the hand of the Veterinarian and is directed over the uterus and ovaries, to give a picture on the ultrasound screen. Later in the pregnancy, ultrasound through the flank may also be done, but due to the amount of intestines in the mare, it is not as reliable as early rectal ultrasound. There are also blood tests, but again they are less reliable than rectal ultrasound.

### *Is this safe?*

Any internal examination of a mare is not without some risk to both the Vet and the mare. However, our Veterinarians are trained to minimize these risks. Many mares tolerate the procedure very well without any sedation required, provided they are in a good quality horse crush which restrains them from moving in any direction. Some mares will kick backwards initially, and hence the crush should have a solid kick gate of the right height behind her. Some mares get quite stressed and react more violently, and these mares are usually sedated prior to the procedure, as soon as their stress is recognized. As with any internal examination, there is a slight risk of rectal wall injury. Luckily this is a very infrequent occurrence.

### *How soon after the stallion serves a mare can this be done?*

Pregnancy can be detected as early as 11 days after service, but we recommend the earliest to be confident is at 14-16 days after last service.

The actual date of "ovulation" (when the mares ovary releases the egg into her uterus for fertilization), which can be detected on ultrasound, is the date which determines when the first pregnancy ultrasound should be done. Usually 14 days after "ovulation" the pregnancy is easily detectable on ultrasound. Ovulation usually occurs about 12 hours prior to your mare no longer being "in season", ie when she is "teased off" and no longer receptive to the stallion. Since most mare owners don't really know when ovulation actually occurs, we usually recommend 14-16 days after the last service.

### *Does it have to be done so early?*

Traditionally, most stud managers/mare owners would wait one cycle, or 21 days, to see if the mare came into season before having a pregnancy test. One of the great advantages of ultrasound is early detection of twins. Twins are a headache in mares, as most twin pregnancies result in early foetal loss, late term abortions, or birth of undersized foals, often with major birthing difficulties for the mares. Twins are more likely in some breeds, with Thoroughbreds having by far the highest rate of twinning, but we see twins in almost all breeds. They tend to be repeatable in some mares, and often with more fertile stallions. Twins in mares almost always come from her releasing two eggs (double ovulation), rather than from the embryo splitting (ie with identical twins).

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The reason why detecting twins as early as possible, ie at 14 days pregnancy, is important, is because, in some instances, if twins are "kissing" (ie, both twins together in the same side of the uterus) it gets harder to remove one twin beyond day 16 after ovulation. Because we usually don't know when ovulation occurs, we make sure we are a day or two early, ie day 14 after last service. Some sets of twins, especially those which are not together, can be managed later, up to 26 days after service, but we won't know this until we ultrasound the mare.

Therefore, to minimize the risk of twins being too advanced and not able to be managed properly, we recommend that the mare is ultrasounded at 14-16 days after last service.

## *How often should a mare be ultrasounded during her pregnancy?*

Unlike humans, where ultrasound is used primarily well after the mother already knows she is pregnant, and mainly to look closely at the baby's organs to see if they are healthy, we use ultrasound in mares to determine *if* she is pregnant, and if the early pregnancy looks normal. We take into account events that occur with the pregnancy to determine when to ultrasound. In the early pregnancy in the mare, there are three phases we recognize:

1. The mobility phase-this is up to day 16, and during this time the embryonic vesicle moves up and down the uterus.
2. Fixation phase, from day 16 to 35, when the vesicle attaches to the uterine wall, and during which time the embryo can be seen growing inside the vesicle.
3. Implantation phase, beyond 35 days, during which time the placenta has cells invade the wall of the mare's uterus to implant the pregnancy.

On busy studs, the routine approach is to ultrasound before the end of the mobility phase, ie at 14-16 days post, then again about 14 days later, to ensure that the pregnancy has fixed in position. Some mares lose their pregnancy after 16 days, and if this can be detected early, there is an opportunity to send the mare back to the stallion, rather than losing time. Usually a third pregnancy test is done at 6 weeks, but provided there is a test done after implantation, ie after 35 days, and everything looks OK, then the chances of the mare losing her pregnancy after that decreases.

Ultrasound has greatly improved our ability to determine early pregnancy, but to get the best results, which gives our clients the best value for money, we need to be doing it under the best conditions. Broad daylight on the ultrasound screen will greatly reduce our ability to detect subtle changes, and may cause us to miss twins in an early pregnancy. Very few people set up their TV screens in bright sunshine. Most hospital ultrasound rooms are darkened, so that the operator can see as much detail and contrast as possible. Therefore, doing ultrasounds in unshaded areas, or unroofed cattle races, may result in a poor result and therefore poor value for money for our clients.

## **IN SUMMARY**

1. We recommend ultrasound pregnancy diagnosis via rectal examination at 14-16 days after service, with confirmation at around 28 days, followed by 42 days.
2. Rectal ultrasound is generally safe, provided the mare is well restrained in a well designed horse crush, and fractious mares can be sedated if necessary.
3. Having the ultrasound screen in a darkened area will improve the screen visibility and allow the Veterinarian to see greater detail and therefore make a better diagnosis.
4. Flank ultrasound is available, but is not as reliable as early rectal ultrasound.

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