

# UMBILICAL HERNIAS

Conventional wisdom says that umbilical hernias are inheritable, and a dog with a hernia should not be bred. Conventional wisdom, however, does not differentiate between "true hernias" where there is a defect in the body wall, and "delayed closures", where a small bit of omentum slips out of the area before the umbilicus closes. In 26 years of dealing with breeders and reproduction, I do not have any evidence that "delayed closures" are inheritable. "True hernias" are indeed highly inheritable. They generally have a thick cartilage edge with an irregular, more or less circular shape. They may extend up into the diaphragm, causing a communication between the thoracic (chest) cavity and the abdominal cavity. These are very difficult to repair surgically because there is a great deal of tissue missing and the tissue is hard and inflexible. They often require the use of a mesh implant to close the defect. These hernias can be related to other midline defects such as heart abnormalities and cleft palates.

"Delayed closures" are just that. There is an area in the abdominal wall where the great vessels of the umbilical cord exit the body of the fetus to derive nutrition and oxygen from the placenta. After birth, these vessels close and shrink up. There is left behind a small area in the midline where the vessels formerly escaped the body. The nature of this structure is a linear slit in the midline, lined with normal connective tissue. Omentum is a kind of slippery thin sheet of tissue which is present in the abdomen. It provides several services to the abdominal organs. It has blood vessels travelling through it to the intestine. Its surfaces produce serous fluid which lubricates the abdominal organs and makes it possible for them to slide against each other without rubbing. It carries lymph nodes for the abdomen, and is a major depot for fat storage. It partially contains the abdominal organs - especially the small intestine - and supports them in a kind of "plastic bag". As the puppy puts on weight, it is possible for a bit of this thin slippery tissue to protrude through the umbilical slit. As the normal process of closing of the umbilicus proceeds, it is possible for this bit of tissue to be entrapped. If the 'hernia' is a closure defect, the normal process of closing will continue, and at some point a small amount of omentum may be entrapped in a bubble outside the essentially closed body wall. This is viewed by most people as a hernia, and a serious problem. If the dog is a year old, has a small bubble, or 'belly button', and it cannot be reduced, has been there since it was a baby, and the dog is healthy and well, it is pretty obvious that the bubble does not contain any intestine. While the puppy is younger, it may not be clear. The very tiny holes with a small bubble of omentum do not require surgery. Slightly larger holes should be closed to be sure that no intestine becomes strangulated in the process of closure. NOTE: no delayed closure can ever close completely simply because there is something sticking through it. If there were no omentum sliding out, they would continue to close normally. What they do, is they close tightly around the omentum, trapping it outside in an absolutely firm unchanging bubble. "True" umbilical hernias can make no progress in closing, ever. They must always be surgically repaired. These individuals should never be bred. These are quite serious. I have never seen a bitch with a delayed closure and trapped omentum bubble show any sign of problem in carrying a litter or whelping. I have never seen one of these bitches produce puppies with hernias. The catch is, you must know which you have. Most veterinarians don't draw these kinds of conclusions or try to differentiate the two different conditions. Your vet may or may not be of help to you in this. Breeders with years of experience often know the difference intuitively. Indeed, since "true" hernias are relatively rare, most have never seen one, unless they are breeding a line that produces them. In these cases, they see true hernias with great enough frequency that any breeder with any common sense will abandon that line.