Procedure information:

Portosystemic shunts are anomalous vessels which allow portal blood to bypass the liver and enter the systemic circulation. Portosystemic shunts can be congenital (intra- or extrahepatic) or acquired. As a consequence, toxins that are normally detoxified in the liver gain access to the systemic circulation, while hepatotropic substances from the pancreas and intestines bypass the liver resulting in hepatic atrophy. Clinical signs of portosystemic shunts can include central nervous system, gastrointestinal and/or urinary tract abnormalities. A presumptive diagnosis of a portosystemic shunt is based on a combination of signalment and history, physical findings, and clinicopathologic abnormalities.

A diagnosis of portosystemic shunting is often achieved at Animal Imaging with Transsplenic Portal Scintigraphy, where a nuclear portogram is acquired. A small dose of radionuclide is administered under ultrasound guidance into the spleen. The passage of radionuclide is dynamically evaluated to determine if a macroscopic portosystemic shunt is present and if the pattern of uptake supports a single congenital shunt or multiple acquired shunts. This procedure is complemented with an abdominal ultrasound to further evaluate the intra-abdominal organs and further characterize the shunting vessel(s) if present.

Computed tomography (CT) exams are extremely useful in diagnosing portosystemic shunts and are also utilized to assess portal-vascular anatomy. Non-ionic iodinated contrast agents are used in CT exams to define abdominal vasculature.

Our veterinary Radiologists have completed an approved Residency Program in Diagnostic Imaging that includes at least three years of advanced training and intensive study in Radiology (x-ray), Ultrasonography, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Nuclear Medicine. The radiologists at Animal Imaging include Dr. Rita Echandi, Dr. Dana Neelis, and Dr. Beth Biscoe.

Scheduling an appointment:

To provide the best diagnosis possible, a completed Nuclear Medicine referral form is required from the referring veterinarian, including any pertinent history related to the exam. This form is available on our website at www.animalimaging.net. A CBC and chemistry panel (within 60 days) will also be required.

A calibrated dose of the radionuclic is ordered the day before the exam specifically for the
patient scheduled to be imaged. If the appointment needs to be canceled for any reason, please notify our staff the day prior to the study, or the unused dose will be billed to the client.

As a new client/patient, we will have consent forms, hospital admission, and anesthesia forms for the owner to complete upon arrival. One of our technicians will take the patient to the treatment area where the procedure will take place. An IV catheter will be placed. This catheter will allow us to administer IV fluids and/or medications during the procedure. The patient is then administered a gas anesthetic, sevoflurane, and placed on the gamma camera. Occasionally, an injectable sedative will also be administered in small patients, which allows better ultrasound visibility of the spleen. A radioactive isotope is injected in the spleen under ultrasound guidance to follow the portal blood flow. An ultrasound exam is then performed after the portal scan. The total procedure time is approximately 45-75 minutes. Once the procedure is complete, our Board-Certified Veterinary Radiologists will review all images along with the history provided by the owner and the referring veterinarian. A report is generated and sent to the owner and referring veterinarian within 24 hours. Once the exam is complete, a radiologist will meet with the owner to discuss all findings and make further recommendations.

Patient preparation for appointment:

*It is important that the owner does not feed the pet after midnight the night before their appointment, and that they have nothing to eat the morning of the appointment. Water may be given and any medications that they are currently taking.

*A calibrated dose of the radiopharmaceutical is ordered the day before the exam. If the appointment needs to be canceled for any reason, please notify our staff the day prior to the study, or the unused dose will be billed to the client.