A herniated lumbar disc can push on spinal nerves and cause severe, shooting leg pain, numbness and/or weakness. A percutaneous disc removal (PDR) can remove a portion of the herniated disc that is compressing spinal nerves through a small incision in the skin. This minimally invasive approach uses a much smaller incision than traditional open spinal surgeries and avoids damage to the low back muscles.
**Introduction**
A herniated lumbar disc can push on spinal nerves and cause severe, shooting leg pain, numbness and/or weakness. A percutaneous disc removal (PDR) can remove a portion of the herniated disc that is compressing spinal nerves through a small incision in the skin. This minimally invasive approach uses a much smaller incision than traditional open spinal surgeries and avoids damage to the low back muscles.

**Accessing the Spine**
A short incision, approximately 2.5 cm. (1 in.), is made to the side of the middle of the lower back. A device that projects live X-ray images onto a screen, called a fluoroscope, is typically used to pinpoint the exact position on the spine where the surgery will be performed. Next, a thin wire or needle is inserted through tissues and muscle to the level of the spine. Special dilators are guided down the wire to separate muscle fibers and provide access to the underlying spine without cutting through the muscles. After the initial dilator is docked on the back of the spine, larger dilators are added, gradually increasing the diameter to allow enough room for the surgical procedure.

**Retractor and Instrument Set Up**
A retractor device that can expand the surgical field and hold back the muscle is placed over the dilators. The dilators are removed and a lighting component is attached to illuminate the surgical field. A hex screwdriver is used to open the retractor blades, holding the soft tissue out of the way. The surgical exposure is now complete. An endoscope or microscope is then added to the edge of the retractor to provide close-up imagery on a screen to help guide the procedure.
Accessing the Disc
Through the opening in the retractor, the surgeon is now able to remove portions of the lamina and facet joint bones. Removing bone here allows the surgeon to access the disc and compressed spinal nerves.

Excision
A grasping instrument is used to remove the herniated portion of the disc. Removing the herniation relieves pressure on the nerve root.

Summary
The surgical instrumentation is removed and the incision is closed and dressed to complete the surgery. Patients usually notice rapid relief of leg pain; however numbness may occasionally persist for several weeks before fading away. Patients should take care to avoid heavy lifting and strenuous exercise for at least 6 weeks following the procedure.