



KINETIKA
SARDEGNA

C.D.C POLISPECIALISTICA SANT'ELENA
QUARTU S'ELENA - CAGLIARI -
UNITÀ OPERATIVA DI CHIRURGIA VERTEbrale II
CERVICALE E MINIINVASIVA

Chief: Dr Mauro Costaglioli



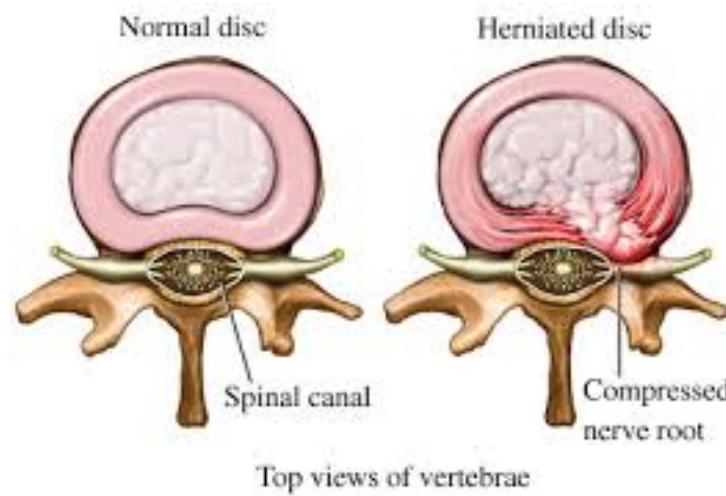
PLDD: SURGERY TECHNIQUE

P. Sannais M. Costaglioli



PLDD

Percutaneous laser disc decompression (PLDD) is a “minimally invasive” procedure to provide symptomatic relief of pain caused by a herniated intervertebral disc



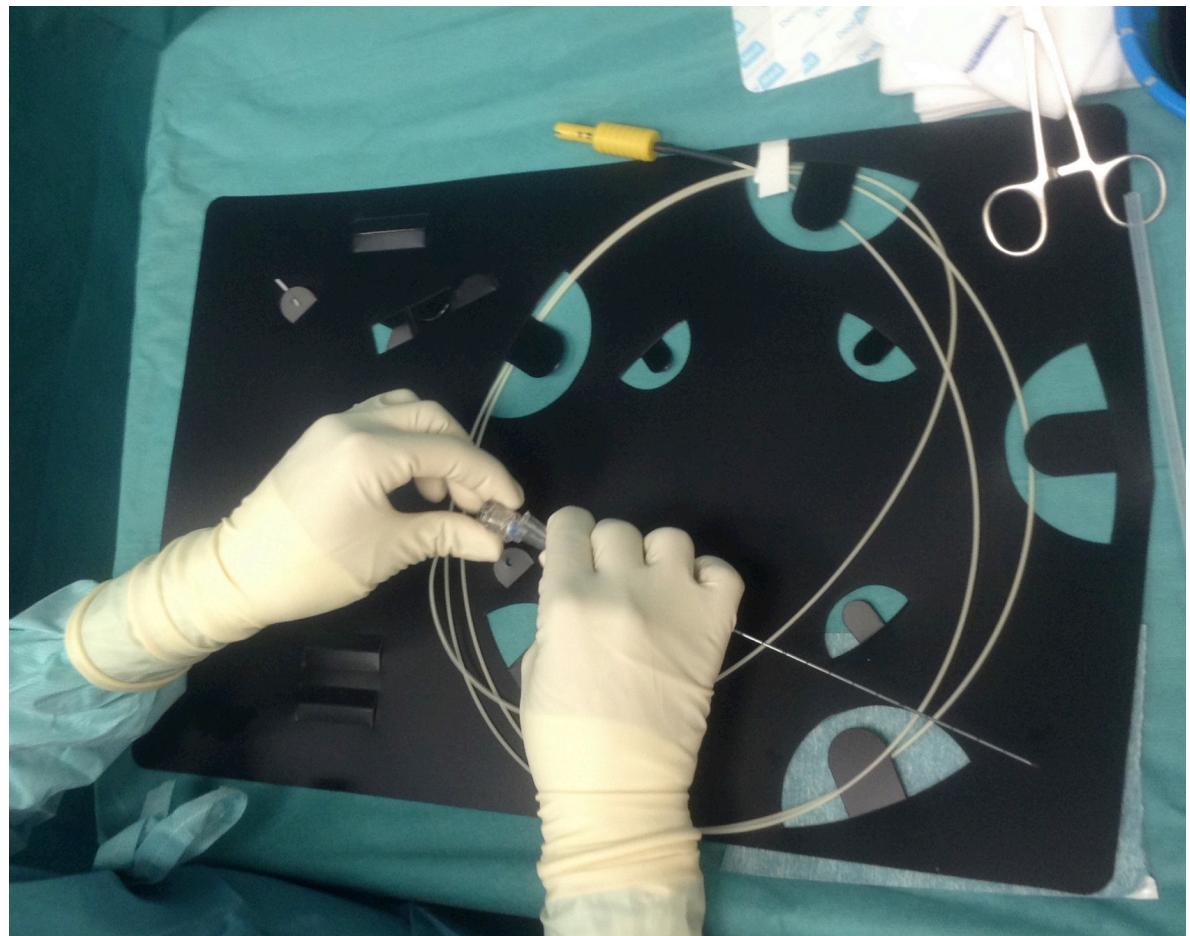
PLDD

Before to start, is important to set the device and measure the amount of optical laser fiber which esacapes the guide needle



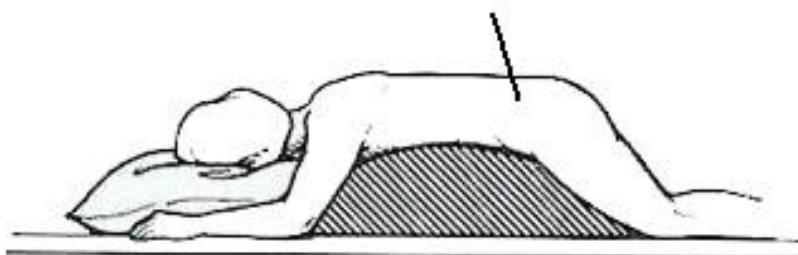
PLDD

During patient positioning, it is important to set the device and measure the amount of optical laser fiber which escapes the guide needle



PLDD

Prone position and a radiolucent spine operative table is suitable for PLDD surgical procedure



PLDD

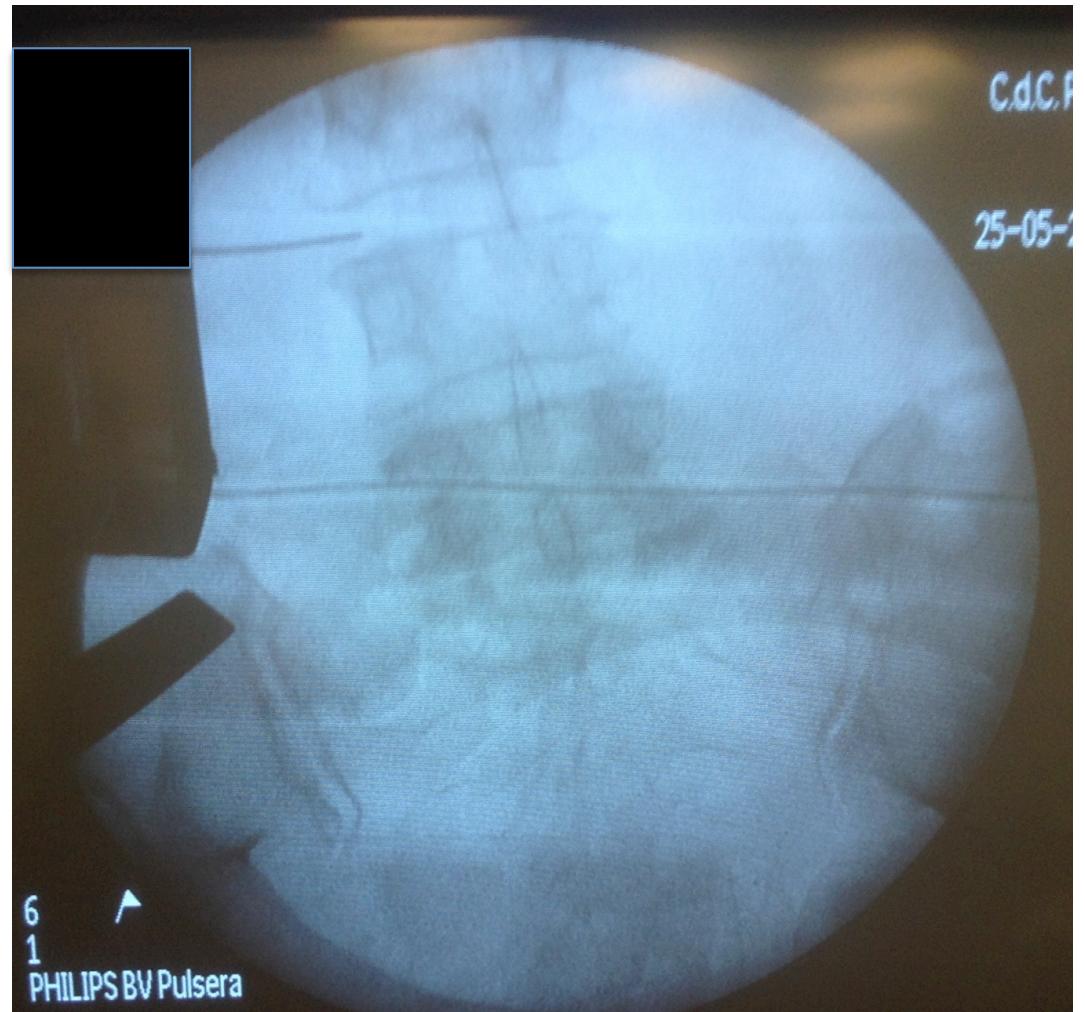
The procedure is conducted under local anesthesia of the skin and underlying muscles. After assessment of the correct disc level by using fluoroscopy, a hollow needle (18-20 G) is inserted above 4-5 cm away from the midline



PLDD

Radiological and anatomical landmark is facet.

AP/LL scan are performed to determine level and correct needle orientation.



PLDD

In our practice,
radiological and
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PLDD

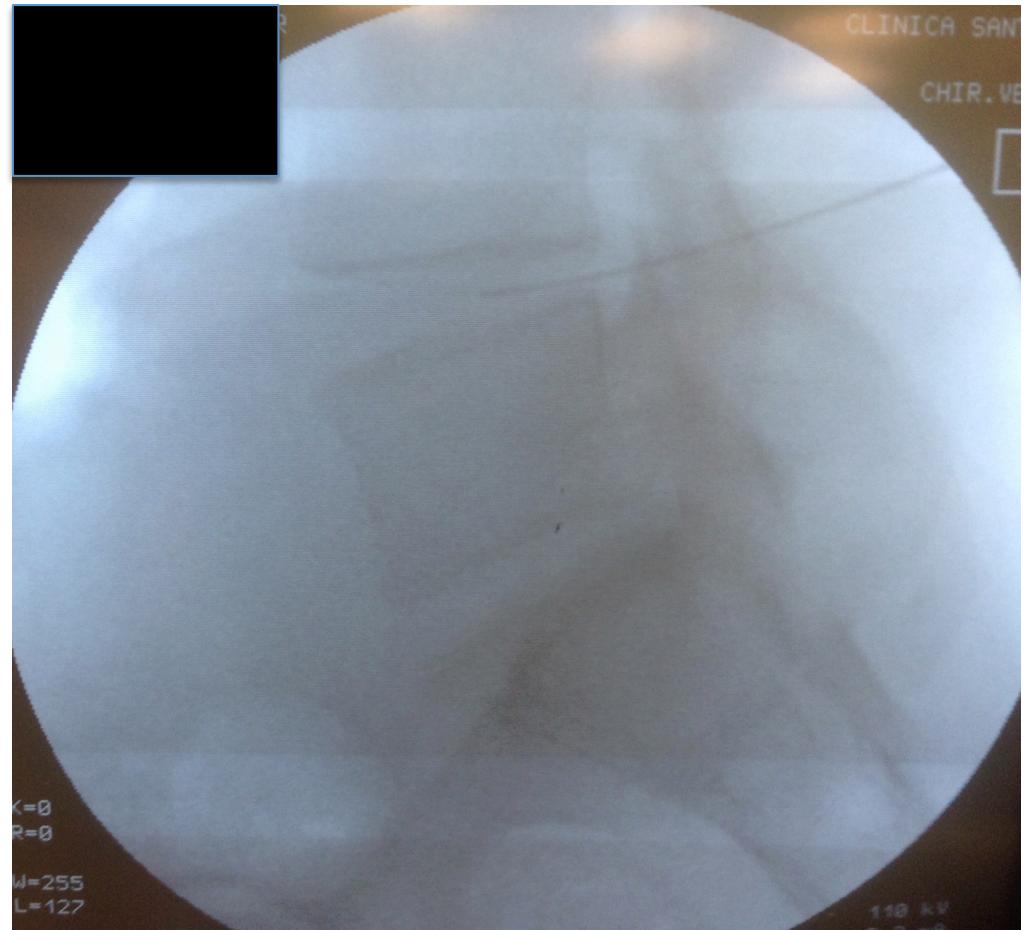
During lateral radiological control, the needle must be moved laterally touching the bone structures up to the disc.



PLDD

It is very important not to position the needle near the endplate (risk of cartilage necrosis).

The ideal target is the middle of the disc.



PLDD

After correct needle positioning, spindle is removed in order to insert the optical laser fiber (400μ) up to the disc.



PLDD

Once the correct position has been reached, laser treatment can begin at 15W, with pulses of 0.5 to 1s and pauses of 4 to 10s.

Laser energy is then delivered into the nucleus pulposus to vaporize its content and reduce intradiscal pressure.



PLDD

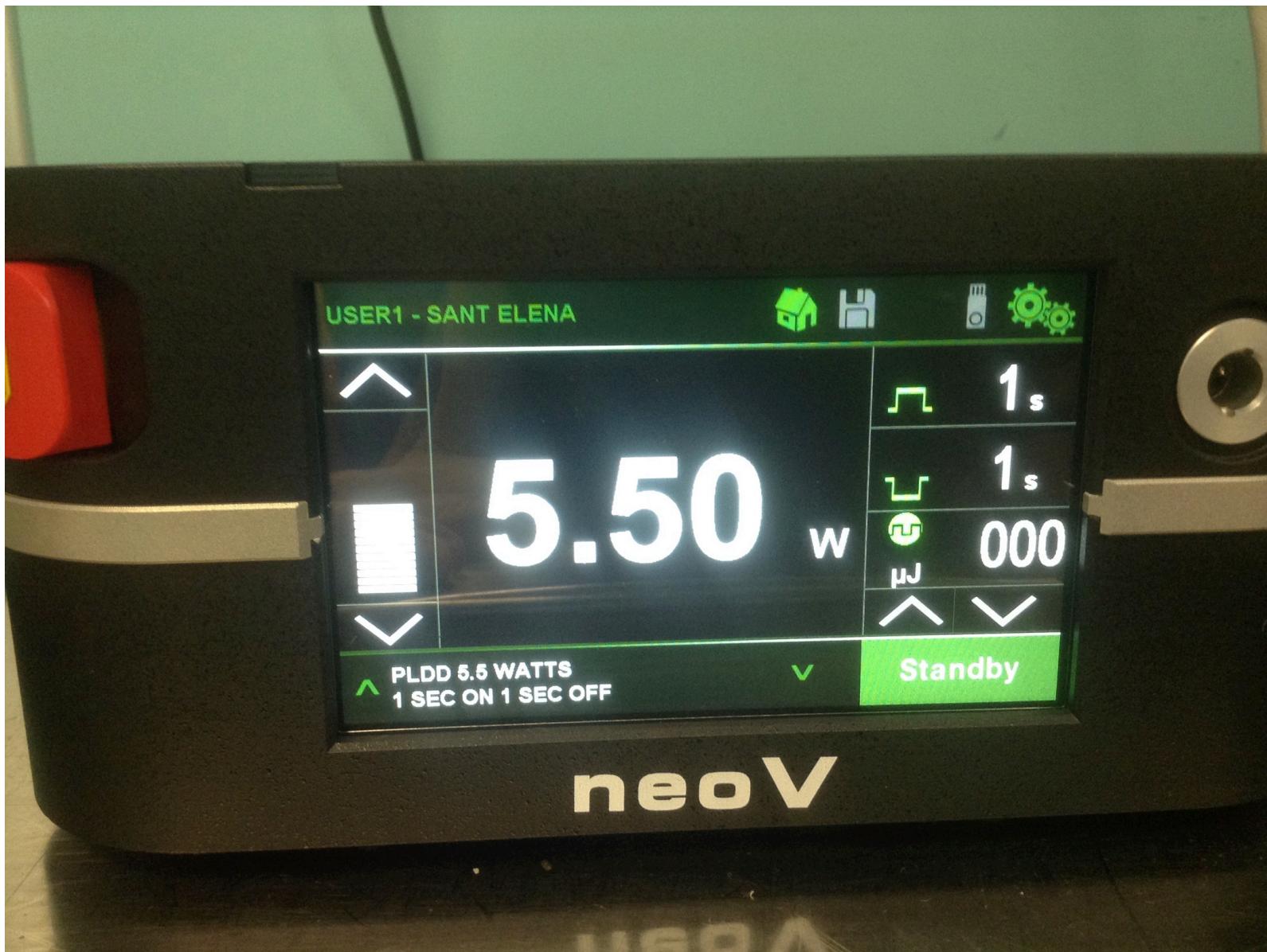
Settaggi Laser per PLDD					
	Lungh.d'onda	Potenza	Pulse On	Pulse Off	Energia totale
L2-L3, L3-L4, L5-S1	980	10	1sec	5-10sec	800-1500J
L4-L5	980	10	1sec	5-10sec	1200-1800J
L2-L3, L3-L4, L5-S1	1470	7	1sec	5-10sec	800-1500J
L4-L5	1470	7	1sec	5-10sec	1200-1800J

Often we prefer to treat the bulging rather than to vaporize the nucleus pulposus. Because of the proximity of nerve root we use lower watts (from 5,5 to 7) and jouls (200-400 in L2-L3,L3-L4, L5-S1 and 300-500 in L4-L5)



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PLDD



PLDD



PLDD

At the end of the procedure is important to remove combustion residue and to moisturize the nucleus pulposus with saline solution and/or local anesthetic



PLDD

At last the fiber is removed and a foramen infiltration with methylprednisolone acetate (2cc) and local anesthetic to avoid cortisol sedimentation is optional.



THANKS!





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LIVE SURGERY

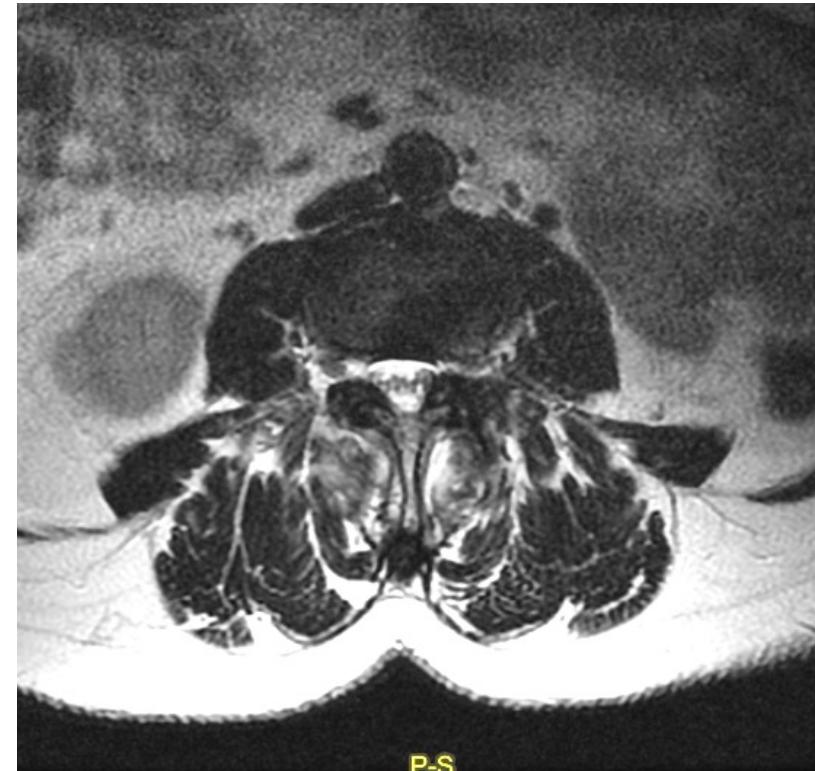
CASE PRESENTATION





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CASE 1

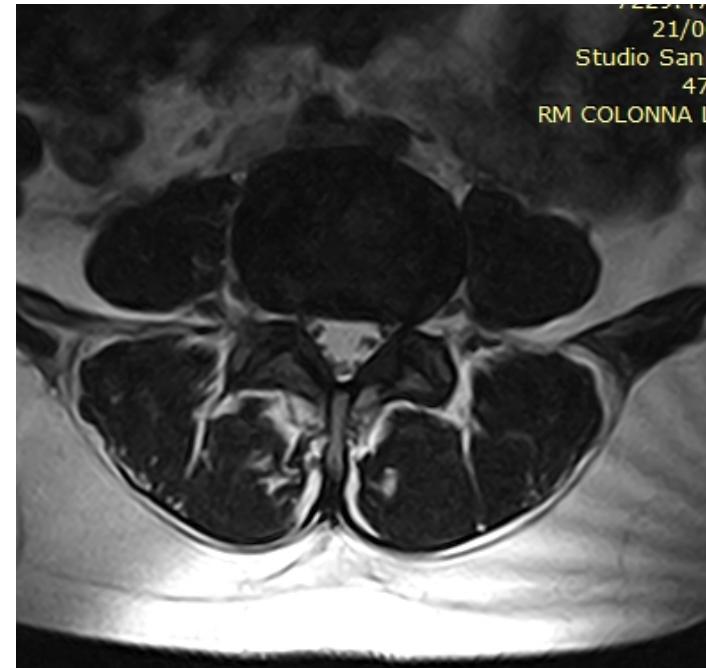


F 56yrs
L3-L4 left bulging
and radiculopathy



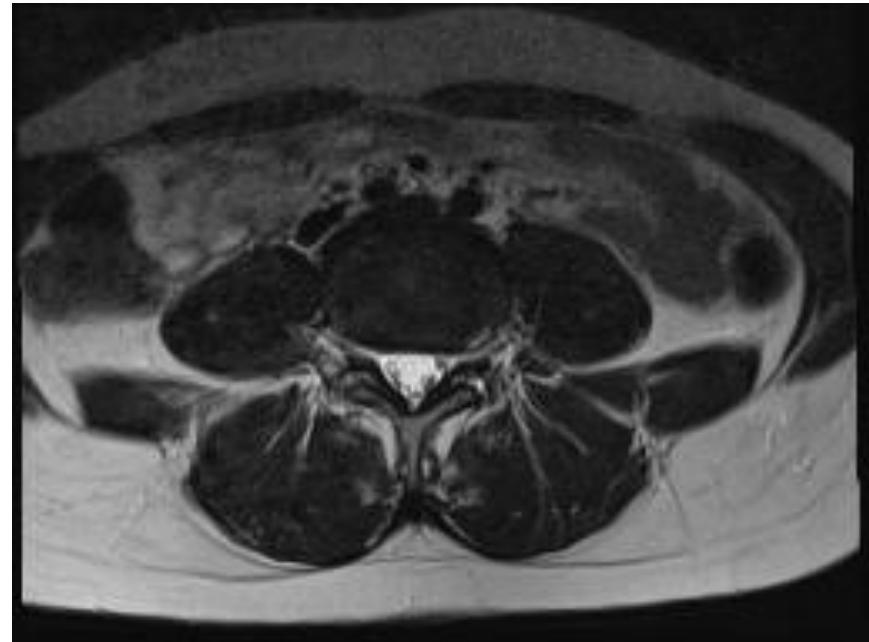
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CASE 2



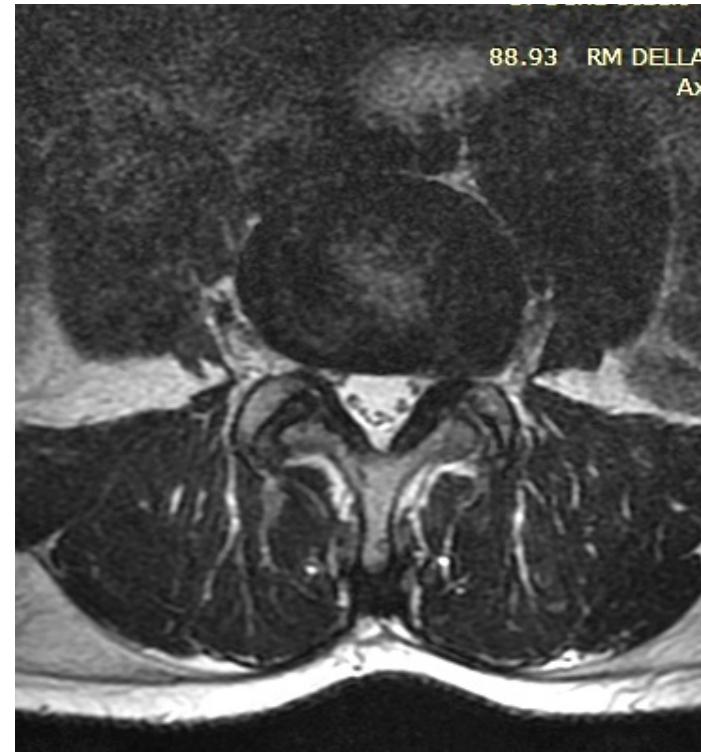
F 45yrs
L4-L5 left bulging
and radiculopathy

CASE 3



F 40yrs
L4-L5 left
intrafoaminal
bulging and
radiculopathy

CASE 4

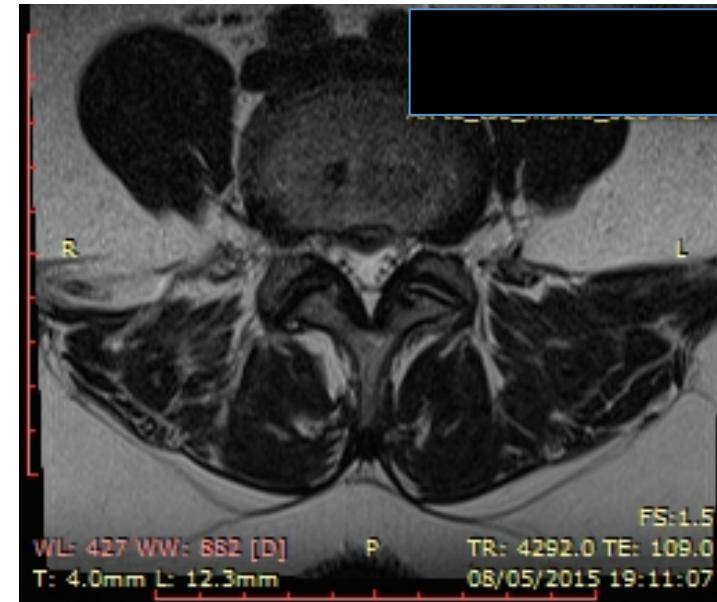


M 43yrs
L4-L5 left HLD and
radiculopathy



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CASE 5



F 40yrs
L4-L5 left bulging
and radiculopathy

SEE YOU
TOMORROW

