

Since the October FDA approval of the Charite' artificial disc, thousands of patients with severe back pain are evaluating artificial disc replacement. I sifted through some of the tricky questions the patient community have (Dec-Jan) and posed them to one of the most experienced spine doctors in world, Dr. Willem Zeegers, a pioneer in the field of arthroplasty.

We caught up with Dr. Zeegers between surgeries and he was kind enough to address some tough questions discussed on the ADRSupport Discussion board. Below, you can read the replies to the patients' questions.

**ADRSupport.org:** Dr. Zeegers, thanks for taking the time today. There have been concerns from patients about the necessary bone tests patients should get before artificial disc replacement. What should patients know about bone densitometry testing – and the various types of equipment that are available to some clinics? E.g. DEXA?

**Dr Zeegers:** The most accurate method is using CT density measurements of lumbar spinal bodies; however, Digital Dual X-ray absorptiometry DXA measurement is preferred because of its low dose radiation.

**ADRSupport.org:** Are bone scanning tests considered a best practice or a requirement in Deutschland? What are your thoughts about making this test mandatory for all ADR candidates?

**Dr Zeegers:** The testing of all patients who are ADR candidates is not necessary, it is optional. Females older than 40 years old need to have a test of their bone quality taken, and all other patients with a metabolic bone disease need certain spinal X rays taken from different angles. The problem is, sometimes there are patients with a normal bone density measurement, but during the operation, they have a weak spot or poor quality at the level where the implantation is done. Sometimes the bone density seems poor, but during surgery, we usually find normal bone quality.

**ADRSupport.org:** What are some of the more common bone disorders you see in ADR candidates?

**Dr Zeegers:** Dehydration or hardening of the vertebral bodies can occur, which is not a problem at all, but you must take care not to overlook a weak pedicle on the dorsal side, which gives less stability. A most common disorder is local weakness of endplates of the vertebral bodies in females over 45 years old.

**ADRSupport.org:** Which conditions may disqualify candidates from ADR? Which ones can be resolved so that the patient may still receive ADR?

**Dr Zeegers:** There are mostly no other conditions for disqualification; the real poor bone quality because of osteoporosis is of course a problem. Many conditions can disqualify patients -- like metastasis, primary cancer, infection, osteomalacia, etc. Conditions like hemangioma, or other benign cavities, can be solved by filling them out with bone or cement and patients still can receive ADR.

Most important, even in an excellent bone quality, if there is an under sizing of metal plates of the artificial disc, it is very dangerous because of risk of subsidence. On the other hand, in poor bone quality with a perfect sized prosthesis it is still possible to do ADR in most cases. If subsidence is happening during an ADR procedure, or shortly after ADR, a vertebroplasty, then supporting with percutaneous cement can solve the problem and stop the pain.

**ADRSupport.org:** If patients have an unusual abnormality with their spinal vertebra, what kind of bone specialist do they consult with? Does the surgeon take the lead to consult with these other professionals?

**Dr Zeegers:** The surgeon is the most important person to consult with and to decide for ADR surgery qualification. It depends on the deformity (e.g. severe osteoporosis) as to whom should be consulted; e.g. by a doctor of internal medicine, metastasis by an oncologist, etc.

**ADRSupport.org:** With regard to the resolution of bone disorders for ADR candidates, what differences (if any) do you see between US and European treatments? E.g., standards, best practices, diagnostics, data assessment or treatment, etc.

**Dr Zeegers:** There *should* be no difference at all.

Dr. Zeegers is one of the world's most experienced spine surgeons and has performed over 1200 artificial disc replacements since 1989. See more about his practice on the web at <http://www.alphaklinik.de/en>. Dr. Zeegers will present a 15-year retrospective of artificial disc replacement to the patient community on May 1<sup>st</sup> in New York City. See <http://www.globalpatientnetwork.com/>

If you have any questions about this column, email us at [info@adrsupport.org](mailto:info@adrsupport.org).

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