

## Interview with Prof. Dr. med. Windhagen \_ Metha®



**It is five years ago now that the first Metha® hip endoprosthesis was implanted – time to take stock. In this interview, Prof. Dr. Henning Windhagen talks about his experience.**

*KURZSCHAFT.DE: Short-stem endoprosthetics has become the fastest growing form of treatment in hip endoprosthetics. What are the reasons, in your opinion?*

PROF. DR. WINDHAGEN: Obviously, there are several reasons we should mention here. First of all, short-stem implants allow easier and less invasive operations, simply due to their proximal anchoring. Thereby they reduce the trauma to soft tissues, which benefits the patient through speedier rehabilitation immediately after the operation. Another important advantage of the Metha® system applied today is the improved reconstruction of the hip, regarding mobility, leg length and joint stability.

This is particularly important as the patients' age at the time of indication is ever decreasing. So we need prosthetic systems that remove as little bone as possible, thus allowing possible future treatment. The short-stem prostheses, which are based on the experience with standard stems, offer a very good alternative to the standard stems. And, last but not least, the short-stem endoprosthesis has the advantage of a lower rate of complications, compared to the hip resurfacing systems.

The implantation of a hip resurfacing system is a very complex procedure that requires extensive experience to achieve good long-term results. Otherwise the advantage of the even lesser degree of bone resection with hip resurfacing cannot be brought to bear.

*KURZSCHAFT.DE: Professor Windhagen, you have been using short-stem implants for more than 9 years now. What brought you to this implant concept?*

PROF. DR. WINDHAGEN: Our patients are becoming more demanding and, unfortunately, ever younger, too. Many patients come to us well prepared and wish not only to be more comfortable in their everyday life, but expect that the endoprosthetic treatment will

allow them to return to the active life they knew in the past. Today I am happy that we included the concept of shorter hip stems in our considerations. This allowed us to break new ground towards meeting these justified demands. Concerning the clinical results, in terms of establishing a concept for long-term success, we are still at an early stage, although our experience so far, with more than five hundred short-stem implantations, is quite encouraging.

*KURZSCHAFT.DE: Looking at your long experience with short-stem systems, have you seen any shift in the spectrum of indications for this form of treatment?*

PROF. DR. WINDHAGEN: The Metha® prosthesis can be used for almost every form of primary or secondary coxarthrosis. Even in cases with prior repositioning osteotomy we saw solid integration of the Metha® stem. Most failures occurred in the presence of osteoporosis, where one has to deal with a soft spongiosa and an extremely thin corticalis, especially in the femoral neck region. In revision operations following soon after the initial intervention, the subsiding of the stem was often accompanied by a fissure in the thin cortical mantle. Problems due to undersized stems occurred much less frequently. In my assessment, cortical apposition is very important, both in the calcar area and at the lateral stem corticalis.

*KURZSCHAFT.DE: Apart from that, are there any other indication criteria?*

PROF. DR. WINDHAGEN: In my opinion the treatment of younger patients with displastic bone conditions or with very short femoral necks is conceivable, as well, by variation of the resection height. However – and this should be emphasized –, the indication for the Metha® should never be forced at any price, because the standard prostheses also offer a very good solution for a wide range of conditions.

*KURZSCHAFT.DE: What would be the cases where you consider the modularity of the prosthesis system particularly useful?*

PROF. DR. WINDHAGEN: With the bone rasp in place, or with the stem already implanted, the variable cone allows step-by-step adjustment, starting from this position, for an optimal joint reconstruction: first the offset reconstruction with torsions, then the range of movement with large articulation diameters.

The modularity of the system allows us to fine-tune the head/socket aspect for optimum mobility and luxation safety. The problem of surgery-related leg lengthening requires further work.

*KURZSCHAFT.DE: Which intraoperative characteristics do you focus on, particularly, to achieve good implantation results?*

PROF. DR. WINDHAGEN: To ensure proper support for the prosthesis, the femoral neck should be preserved in closed condition. Its entire cross-section should be filled by the prosthesis or the rasp, primarily. Apart

from that, the apposition at the cortical calcar is of special importance. Intraoperative X-ray control can be applied to allow better assessment of the overall situation.

*KURZSCHAFT.DE: Large articulation diameters have become increasingly important. Do you see any clinical advantage or patient benefit in this approach?*

PROF. DR. WINDHAGEN: Clinically, large articulation diameters offer the very modern combination of luxation safety and extended range of movement. These two characteristics are more and more demanded in today's hip endoprosthesis. If the existing data about abrasion from large articulations are confirmed, this will be the system of the future.

*KURZSCHAFT.DE: Does the combination of a short stem and a 36mm ceramic head offer a better solution for the younger and more active patient?*

PROF. DR. WINDHAGEN: Yes, quite clearly this combination particularly supports the high level of activity in this group of patients. The wide range of movement and the hard-wearing properties of ceramic-ceramic articulation acquire special, new relevance in this context. After all, these young patients will be tomorrow's replacement patients. This aspect makes it even more important to implant a bone-preserving prosthesis whose articulation is characterized by minimal abrasion, so that replacement will become necessary only as far in the future as possible.

*KURZSCHAFT.DE: In what way do short stems offer special advantages over standard prostheses in mini-invasive operations?*

PROF. DR. WINDHAGEN: You only have to look at the shape and size of the prosthesis. The basic configuration appears ideal for less invasive approaches. Moreover, the preserved femoral neck allows very good display of the approach path of the prosthesis. The shape of the prosthesis is not the only factor contributing to this advantage. It is also helped by the modern instruments available for specific approaches. Another important advantage of this form of treatment is that the gluteus medius is neither detached nor dissected. As I said earlier: This technique is particularly gentle on the soft parts.

*KURZSCHAFT.DE: Where do you see the limits for this procedure?*

PROF. DR. WINDHAGEN: The main problems of minimally invasive hip endoprosthesis are found at the socket. In my opinion, careful exposure of the situs is indispensable. Personally, I like to use cup navigation, especially to control the reaming and to orientate via the cup position. Special retractors developed for this system are also of invaluable help.

*KURZSCHAFT.DE: Which less invasive approach do you use, and what are your experiences?*

PROF. DR. WINDHAGEN: I see very individual anatomic conditions in the anterior and anterolateral approach in different patients and take into consideration the muscle thickness and respective position of the anterior and anterolateral gaps. Most often I choose the anterolateral gap between the gluteus medius and the tensor fasciae latae in supine position. In this way I can insert the cup with the help of navigation and maintain good control of the stem and the leg length. However, in many cases the anterior approach appears more appropriate, and there are other cases where I resort to short incisions of the gluteus medius, using the Bauer technique.

*KURZSCHAFT.DE: Early return of the patient to their normal life is one of the principal criteria for the treatment with a short stem. What about the postoperative procedures at your hospital?*

PROF. DR. WINDHAGEN: For most patients with good bone conditions, I allow immediate load in 4-point gait. The walking supports can be used individually and should be kept rather longer for gait training. In selected cases of osteoporosis or periprosthetic fissures, the patients must maintain partial load of 10 kg with walking support for six weeks.

*KURZSCHAFT.DE: After more than 400 Metha® implantations you must have a wealth of detailed experience. Does the system meet the high standards expected by you and your patients?*

PROF. DR. WINDHAGEN:

The Metha® is already a very popular endoprosthesis. My colleagues here at our hospital like to use it, too. It is relatively easy to implant, meaning one is always tempted to widen its indication. However, there is still not enough clinical experience to determine the value of the Metha® prosthesis for older patients or for those presenting with deformities. Still, although our results are only short-term so far, the Metha® prosthesis already has its place in my portfolio and is favored for patients for whom I expect one more hip TEP replacement in the course of a few decades. For cases where I expect two future hip TEP replacements I still use the hip resurfacing solution. **However, speaking with all due caution, the Metha® system shows a lot of potential to become a very commendable choice for younger and middle-aged patients.**