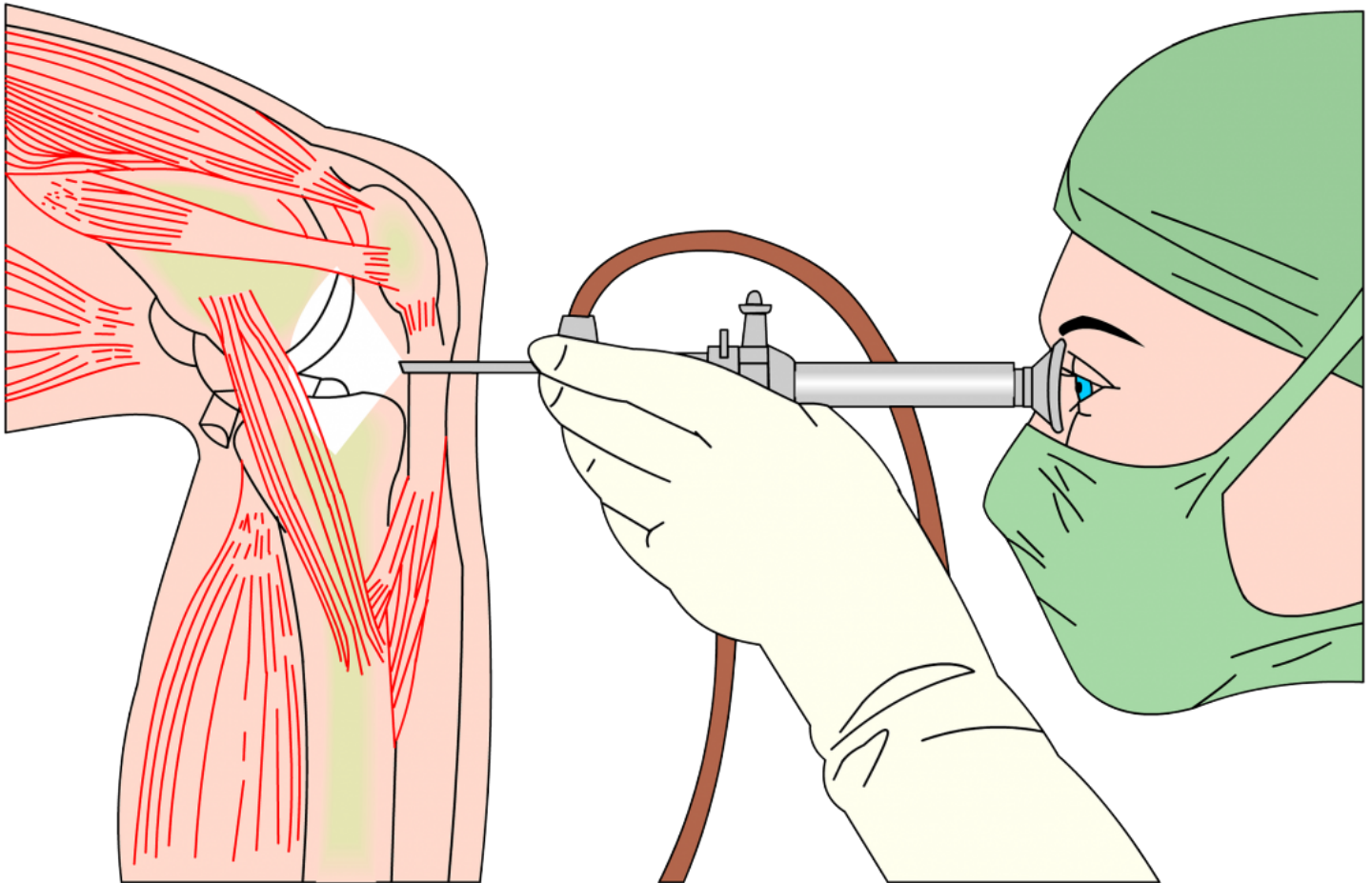


## Computer-assisted orthopedic surgery has better precision & results

<https://www.biovoicenews.com/computer-assisted-orthopedic-surgery-has-better-precision-results/>

By : BioVoice Correspondent - August 21, 2017





In an email interaction with the BioVoice News, Dr (Prof.) Anil Arora who is the currently based at the Department of Orthopaedics, Max Super Speciality Hospital from Delhi, gave details about the difference between manual and the latest computer-guided knee replacement surgeries. He is one of the prominent doctors in India who has been using this technology. While many other orthopaedic surgeons have joined the bandwagon, Dr Arora says, he is proud that he was the pioneer in this area.

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**What makes pinless computer-navigated total knee replacement different from earlier versions?**

Balancing the soft tissues and the right alignment are the two factors that play the most important role in successful knee replacement or arthroplasty and determine the longevity of knee replacement. Traditionally, knees have been aligned using jigs clamped loosely at the outside of the leg or referenced from the rods placed in the middle of the bones. Since years, this knee replacement technology (prosthesis) is being used to align the bone. However, there is a strong possibility that the components may misalign which may lead to early loosening, early polyethylene wear and poor function. The new computer navigation technology in knee replacement attempts to correct the problems faced in the traditional method of knee replacement.

The computer-assisted surgery is a perfect combination of precision & accuracy of computer technology with expertise of the surgeon. With this technology we were able to achieve alignment of implants with a high degree of accuracy which is not possible with the naked eye. The procedure results in fast recovery so that the patient can get back to their normal activities. Benefits of computer-assisted knee replacement surgery include the better balance and positioning of prosthesis, more accurate placement and alignment of prosthesis, better functioning knee and early return to active lifestyle for the patient.

**We have been using this technology from many years. Over the years, the experience of using this technique is now being used to train other surgeons who wish to use this technology.**



**Why is it being called the most advanced? Aren't there any other alternatives available currently?**

**An established & improved version of knee replacement technology, this computer aided surgery is a constantly evolving science and improves the accuracy, reproducibility & enhance the overall clinical outcome.**

**The computer navigation models in the earlier times had an array (transmitter) which was attached to the knees with the help of the holes in the thigh & leg bone outside the knee. The drilling of these holes lead to complications like thigh fracture, infections & damage to the nerves, arteries, and veins. The latest version of the computer-navigated technology i.e. Pinless Navigation System helps the surgeon to work directly on the joint surface without the need of any extra wounds. As a result, there is less pain, and no risk of fracture, no drilling and extra holes. The arrays are attached through jig system & hence, avoid various complications that were there in the previous versions.**



**Is there any room for further improvement of this technique?**

**Till today, the computer navigated technology is a cutting-edge technology. Due to high precision and great features like clear display of the complete data on the monitor in the form of charts and graphs, it is very easy for the surgeon to identify the angles, lines, and measurements needed to accurately align the prosthetic knee with the patient. The procedure is like a GPS system inside the operating room. The patients can now get a new knee with optimal strength, high stability & range of motion that work efficiently in difficult anatomic situations.**



**Where is this technology manufactured and who owns it?**

**It is generally manufactured by various healthcare companies. The technology used by us is the state-of-the-art 'Collabri' from Brain Labs that has been manufactured in Germany.**