

Whats up WOODLANDS

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In a First for India, One Patient Undergoes Both Robotic and AI-Driven Knee Replacements

For the first time in India, the same patient has undergone total knee replacement (TKR) using two different cutting-edge technologies—robot-assisted surgery on one knee and AI-driven surgery with Microsoft HoloLens on the other.

Saradindu Banerjee, a 66-year-old pharmacist from Behrampore, had his left knee replaced last year at Woodlands Hospital under Dr Sujoy Kundu, using traditional robotic-assisted surgery, amongst the first few cases of its kind in the city at the time. AI-powered TKR with HoloLens technology was, of course, not available in Kolkata back then.



Now, with the advanced system in place, Banerjee opted for AI-driven knee replacement for his right knee, making him the first in the country to experience both

technologies firsthand. Remarkably, just days after surgery, he was already walking without support and was discharged on the fifth day of surgery.

His journey offers insights into the evolving landscape of knee replacement technology, providing a rare comparison between robot-assisted and AI-powered precision surgeries.

So, how does AI-based knee replacement work? It all starts with a special CT-Scan of the affected knee. The



image is converted into PDF and sent over to Microsoft, who work on it. AI takes a call on the exact size of the implant to be used and builds the framework to pilot the surgeon on how to place it anatomically. It factors in every small detail of every bone in the area in doing so.

The CT-Scan earlier taken thus turns into a scanogram (a long-leg X-Ray). This scanogram is embedded in a QR-Code, no different from the ones we see all around us. The surgeon puts on a headgear – the Microsoft HoloLens 2 – in the OT. When the QR Code is viewed through the HoloLens, a 3D view unfolds before him and this becomes the surgeon’s guidebook in the OT Room.

Speaking to Whats up Woodlands after the surgery, the patient said on the third of surgery that the operate area “felt much more tighter” post surgery in robotic surgery. “Movements and even walking is much more easy this time around with AI-based surgery,” he added.

Comparison with Traditional Robotic-Assisted Knee Replacement		
Feature	AI-Driven TKR with HoloLens	Robotics-Assisted Knee Replacement
Precision	High (AI-driven real-time guidance)	High (pre-programmed robotic assistance)
Equipment Size	Lightweight, wearable AR headset	Large robotic arm and workstation
Invasiveness	Less invasive, no extra bone markers needed	Requires additional bone registration and tracking
Surgical Time	Faster (no robotic calibration needed)	Slightly longer due to robotic setup
Real-Time Adaptability	AI adapts dynamically during surgery	Robotic system follows pre-planned path
Training & Learning Curve	Easier to adopt, intuitive AR interface	Requires specialized robotic training

Advantage of both AI-based and Robotic TKR; Avoiding intervention in the **femoral canal** during **AI-based and Robotic Total Knee Replacement (TKR)** helps in reducing complications like **fat embolism, blood loss, and post-operative pain**. Here are **key approaches** used in both techniques.

WOODY SAYS

PCOS – More Than Just a Period Problem!

Hey, squad! Let’s bust some myths—PCOS (Polycystic Ovary Syndrome) isn’t just about irregular periods; it’s a metabolic syndrome that can bring along **acne, unwanted hair growth, hair thinning, obesity, diabetes, and even high BP**.

Why does it happen?

The exact cause? Still a mystery. But **lazy days, oily food, and fast food binges?** Big red flags!

The PCOS-Infertility Link:

PCOS can mess with your fertility—**up to 50% of women with PCOS face challenges in conceiving**. But guess what? There’s hope!

What can you do?

“Move it, don’t lose it!” – Ditch the couch, get moving! **A fit body = a happy hormone balance.**

“Eat smart, glow hard!” – Say NO to maida-loaded junk and YES to **whole grains, lean proteins, and veggies.**

“Medical care = self-care!” – Managing PCOS isn’t a DIY gig. **Docs can help regularise cycles, improve fertility, and prevent complications.**

“Baby plans? Start now!” – Early intervention makes conception smoother and reduces pregnancy risks.

PCOS needs **attention, not just patience**—so don’t ignore the signs! **Tweak your lifestyle, seek medical help, and take charge.**

Stay aware, stay empowered—Woody out



MD SPEAKS



Mr Rupak Barua
 Managing Director & CEO
 Woodlands Multispeciality
 Hospital Ltd

At Woodlands Multispeciality Hospital, we are committed to advancing healthcare while staying deeply connected to our community. This past month has been a testament to that dedication. We are proud to introduce the first patient in this region to undergo two total knee replacements, one using AI-driven surgery and the other robotic surgery — both enhancing precision and improving outcomes. Additionally, we highlight the Target-Controlled Infusion (TCI) Pump, a technology that ensures greater accuracy in anaesthesia delivery. As we continue integrating cutting-edge innovations, our focus remains on providing safer, more effective, and patient-centric care.

Beyond clinical excellence, Woodlands remains a trusted healthcare partner in various initiatives. Our participation in the Bengal Global Business Summit (BGBS) reinforced our vision for healthcare growth, while our presence at the ICC Centenary Marathon and sports events like the Ambuja Neotia Cricket Tournament highlighted our role in ensuring safety beyond hospital walls. We also deepened our community engagement by connecting with IOCL retirees and Star Health Representatives, fostering stronger healthcare collaborations.

A special moment of pride was my recognition as 'CEO of the Year' at the 33rd World HRD Congress—an honour I share with my exceptional team whose dedication drives our success. As we step into another promising month, we remain committed to innovation, patient-centric care, and strengthening healthcare accessibility.

TECH

Precision in Anaesthesia: The Advantage of TCI Pumps at Woodlands

At Woodlands Multispeciality Hospital, advanced anaesthesia delivery is now even safer and more precise with the Target-Controlled Infusion (TCI) Pump. Widely used by anaesthetists, this cutting-edge device ensures optimal drug administration by adjusting dosage based on a patient's sex, height, and weight using sophisticated physiological models.

The effectiveness of IV anaesthetic drugs depends on maintaining a stable concentration in the blood or target site. Unlike conventional infusion methods, the TCI pump continuously fine-tunes drug delivery, achieving the required level of sedation while preventing under- or over-dosage.

This precision is critical in complex cases, such as moribund patients, children, or those with cardiac conditions, where even slight variations in drug levels can pose risks. The pump's ability to maintain anaesthesia within a safe range is particularly useful for potent drugs used to control blood pressure or manage high-risk procedures. By integrating technology with patient safety, Woodlands

reaffirms its commitment to cutting-edge, personalised care, ensuring that every patient receives the most efficient and well-regulated anaesthesia experience.

Advanced Safety & Precision

The Target-Controlled Infusion (TCI) Pump adjusts anaesthetic dosage based on sex, height, and weight for optimal drug delivery.

- Stable & Controlled Sedation
- Ideal for High-Risk Cases
- Cutting-Edge Patient Care



SNAPSHOTS: A MONTH OF ENGAGEMENT & EXCELLENCE

From championing healthcare at BGBS to ensuring safety at the ICC Centenary Marathon, February was a month of meaningful engagements for Woodlands. Whether supporting sports, our MD & CEO being honouring at the World HRD Congress, or strengthening community ties with IOCL retirees and Star Health Representatives, Woodlands reaffirmed its commitment to healthcare beyond hospital walls.



BGBS: Mr Rupak Barua, spoke at the Healthcare and Valedictory Sessions on February 6. Woodlands set up a stall at Biswa Bangla Mela Prangan fairground, offering consultations and essential health check-ups, including Bone Mineral Density (BMD) and Spirometry tests.



Marathon: Woodlands Hospital proudly participated in the ICC Centenary Marathon providing critical medical support with a dedicated ambulance, doctor, paramedic, and nurses on standby to ensure a safe and healthy experience for the 1,000-odd participants on February 23, 2025.



World HRD Congress: Mr Rupak Barua, managing director & CEO of Woodlands Multispeciality Hospital, was honoured with the 'CEO of the Year' award at the prestigious 33rd World HRD Congress at Mumbai on February 18, 2025.



Ambuja Neotia Annual Cricket Tournament: Sports big and small, Woodlands is always there to lend support. We were the medical partner in the Ambuja Neotia Annual Cricket Tournament on February 8, 2025.



PNB & ZOA Sports: Woodlands participated as a medical partner in Punjab National Bank (PNB) South & Zonal Administrative Office Kolkata organised Annual Sports on February 9, 2025.



IOCL Retired Employees
IOCL Retired Employees' meet the Woodlands top management at the hospital's boardroom on February 24, 2025.



Start Health Representatives: Woodlands organised a meet for representatives of Star Health and Allied Insurance at Hotel Hindustan International, in which Dr Shiv Shankar Bhadra, head of the Emergency Department, Woodlands, addressed the gathering on January 23, 2025.

- 65K+ Orthopaedic & Replacement Surgeries
- 60K+ Total Cardiac Interventions
- 3 lakh+ surgeries
- 79 years of service

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