

Am I a Candidate for Robotic Knee Replacement?

How we decide, at Aster MIMS Kannur, who benefits from CORI robotic-assisted knee surgery.

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Key Takeaways

- Whether you need a knee replacement depends on your symptoms and failed non-surgical treatment, not on the technology.
- If you are a candidate for knee replacement, you are generally a candidate for the robotic-assisted version. It is the same operation done more precisely.
- Robotic guidance suits both total and partial (unicompartmental) knee replacement.
- The proven edge is precision and alignment accuracy. Pain, function and satisfaction are broadly similar to manual surgery in the evidence so far.

- A few knees are better served by a manual approach, which is why each case is assessed individually.

It is one of the first questions patients ask me in clinic at Aster MIMS Kannur: "Doctor, am I suitable for the robot?" It is a sensible question, but it usually has the logic slightly back to front. The honest answer is that the robot is rarely the thing that decides who is suitable. Your knee decides that.

Let me explain what I mean, because once you see it, the whole decision becomes much simpler.

First question: do you need a knee replacement at all?

Long before we talk about robotics, there is a more important conversation. A knee replacement is recommended when two things are true together. First, you have significant, persistent symptoms: pain that disturbs your sleep, stiffness that limits your walking, a knee that has stopped letting you live the way you want to. Second, the sensible non-surgical options have genuinely been tried and have stopped helping. That usually means weight management where relevant, activity changes, physiotherapy, painkillers or anti-inflammatories, and sometimes an injection.

When pain and loss of function persist despite all of that, and your X-rays confirm worn-out cartilage that matches your symptoms, a replacement becomes a reasonable option. Notice that none of this depends on the technology in the operating theatre. The case for surgery is built entirely from your story and your X-rays.

The technology does not decide if you need surgery. Your knee does. Robotics only changes how precisely the operation is performed, not whether it should happen.

So who is a candidate for the robotic version?

Here is the part that surprises people. Almost everyone who is a candidate for a knee replacement is also a candidate for the robotic-assisted version. Robotic assistance is not a different operation reserved for special cases. It is the same operation, planned and executed with more precise guidance.

The [CORI robotic system](#) we use at Aster MIMS Kannur is an image-free, handheld tool. It does not need a pre-operative CT scan or MRI. During the operation I map your own bone landmarks with a handheld probe, the software builds a three-dimensional model of your knee, it assesses how the gaps behave as the knee bends, and I then remove bone and position the implant under the system's guidance. The aim throughout is fewer positioning errors than conventional instruments allow. If you want the full picture of how it works, our [complete guide to robotic knee replacement](#) walks through each step.

You are likely a candidate if...

- You have persistent knee pain or stiffness that limits daily life.

- Non-surgical treatment (physiotherapy, medication, injections, activity changes) has been tried and is no longer enough.
- Your X-rays show cartilage wear that matches your symptoms.
- You are medically fit enough for the operation and anaesthetic.
- You have realistic expectations: a knee that lets you live more comfortably, not a brand-new young joint.

Total or partial: robotic suits both

Not every worn knee needs the whole joint replaced. When only one compartment is damaged, a partial (unicompartmental) knee replacement resurfaces just that part and leaves the healthy bone and ligaments alone. Robotic guidance is useful for total knee replacement, and it is arguably even more valuable in partial knee surgery, where the margins for error are smaller and getting the alignment exactly right matters more.

Robotic partial knee replacement

What a 16-study meta-analysis found, robotic versus conventional partial knee surgery

Better alignment

Robotic guidance improved hip-knee-ankle limb alignment (mean difference 0.86 degrees) compared with manual technique.

More precise positioning
+3.03 Oxford score

Slightly better Oxford Knee Scores after robotic partial knee surgery. Pain, range of motion and joint awareness were similar between the two.

Honest, modest edge

The honest part: precision is the proven benefit

I will not sell you something the evidence does not support. Across the large reviews of robotic versus conventional total knee replacement, the consistent finding is this: robotic assistance reliably reduces alignment outliers and places the implant closer to the planned position. Where surgeons want neutral alignment, robotic technique gets there more consistently, with fewer knees ending up off-target.

What the same studies show is that short to medium term pain, function and satisfaction scores are so far broadly similar to manual surgery, and complication and revision rates are similar too. In other words, the proven edge is precision and consistency, not a guaranteed better-feeling knee. Robotic surgery does tend to take a little longer in theatre. Long-term benefit and cost-effectiveness are still being studied. You can read more about the operation itself on our [knee replacement page](#).

Why I still favour it for most patients

Even if the average outcome is similar, getting alignment right is the part of the operation most within a surgeon's control, and getting it wrong is linked to problems down the line. A more consistent, reproducible result is worth having. I see robotic assistance as a better tool for doing a known operation well, not a magic upgrade.

When we might pause, or choose manual

Most candidacy decisions are straightforward, but not all. There are situations where I will slow down, examine the knee carefully, and sometimes recommend a manual approach instead, or advise against surgery for now. This is why an individual assessment matters more than any general rule.

We may pause or discuss first if...

- Your symptoms are still mild, or you have not yet given non-surgical treatment a fair trial.
- There is a very severe deformity or unusual anatomy that may suit a particular technique.
- You have previous metalwork or hardware around the knee from earlier surgery.
- There is an active infection, or a medical condition that needs optimising before any operation.
- Your expectations and what surgery can realistically deliver do not yet line up.

None of these is automatically a "no". Most are simply a "let us talk about it properly first". And to be clear, factors people worry about most, such as age or having other health conditions, rarely rule out the robotic route on their own. Your overall health is assessed exactly as it would be for any knee replacement, because the recovery and anaesthetic demands are the same.

What we actually assess in clinic

When you come to see me, working out candidacy is a structured, unhurried process. There is no single test that says yes or no. It is a picture built from several things together.

- **Your story.** How the pain affects sleep, walking, stairs, work and the things you love. This carries more weight than any single image.
- **Examination.** The range of movement, stability, alignment of the leg, and how the knee behaves under load.
- **X-rays.** Standing X-rays show the pattern and severity of wear and any deformity, and tell me whether a partial or total replacement fits.
- **Overall health.** A fitness check for surgery and anaesthesia, done with the anaesthetic team where needed.
- **Your goals.** What a good result looks like for you, so the plan is built around your life, not a textbook.

Only after all of that do we discuss the approach. For the great majority of people who genuinely need a knee replaced, robotic-assisted surgery with the CORI system is a precise, sensible way to do it. For a small minority, I will recommend something different, and I will tell you exactly why.

Finding out where you stand

If your knee has reached the point where it is limiting your life despite trying the non-surgical options, the most useful next step is an assessment. I run a dedicated knee clinic at Aster MIMS Hospital, Kannur, and see patients from across North Kerala and the Malabar region, including Thalassery, Taliparamba, Payyannur, Mattannur and Iritty. Bring any recent X-rays if you have them. You can [book an assessment through the clinic](#), and we will work out, together, whether a knee replacement is right for you and how best to do it.

The evidence behind this article

1. Ghazal AH, et al. Robotic versus conventional unicompartmental (partial) knee surgery: a systematic review and meta-analysis. *Cureus*, 2023. Supports the better limb alignment (MD 0.86) and Oxford Knee Score (MD 3.03) with robotic partial knee replacement, with pain and range of motion similar. doi.org/10.7759/cureus.46681
2. Ruangsomboon P, et al. Clinical and radiological outcomes of robotic-assisted versus conventional total knee arthroplasty: a systematic review and meta-analysis of RCTs. *Acta Orthopaedica*, 2023. Supports fewer alignment outliers and similar WOMAC, revision and complication rates. doi.org/10.2340/17453674.2023.9411
3. Alrajeb R, et al. Robotic-assisted versus conventional total knee arthroplasty: a systematic review and meta-analysis of RCTs. *European Journal of Orthopaedic Surgery & Traumatology*, 2023. Supports better alignment restoration with similar clinical outcomes and complication rates. doi.org/10.1007/s00590-023-03798-2

Findings retrieved via PubMed and cross-checked against the published reports. General patient education, not individual medical advice.

Dr. Vishnu's Perspective

I tell patients this often: the robot does not decide whether you need a new knee. Your knee does. My job at Aster MIMS Kannur is first to confirm you genuinely need a replacement, and only then to choose the most precise way to do it. For most people that precise way is robotic-assisted, but I will always tell you honestly if your particular knee is better served another way.

Frequently Asked Questions

Who is a candidate for robotic knee replacement?

Almost anyone who needs a knee replacement at all. The decision to replace a knee depends on your symptoms and whether non-surgical treatment has failed, not on the technology. If you are a candidate for a standard knee replacement, you are generally a candidate for the robotic-assisted version, which is simply a more precise way of doing the same operation.

Is robotic knee replacement only for total knee replacement, or partial too?

Both. Robotic assistance suits total knee replacement and partial (unicompartmental) knee replacement, where only the worn part of the knee is resurfaced. In partial knee surgery the evidence shows robotic guidance gives better limb alignment and slightly better Oxford Knee Scores, because the margins for error are smaller.

When might Dr. Vishnu recommend manual surgery instead of robotic?

Occasionally. Some situations, such as certain severe deformities, previous hardware, or specific anatomical factors, can make manual technique the better choice, and a few patients are not suitable for either route. I assess each knee individually with X-rays and a clinical examination before recommending an approach.

Does being older or having other health problems rule me out?

Not by itself. Your overall health is assessed the same way it would be for any knee replacement, because the anaesthetic and recovery demands are similar. Robotic assistance does not add significant risk. What matters is whether you are fit enough for the operation itself, which we evaluate together with the anaesthetic team.

Where can I find out if I am a candidate for robotic knee replacement near Kannur?

I run a dedicated knee clinic at Aster MIMS Hospital, Kannur, serving patients across North Kerala and Malabar including Thalassery, Taliparamba, Payyannur, Mattannur and Iritty. Bring any recent knee X-rays. You can book an assessment through the clinical contact page on this site.

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This article is for educational purposes and does not replace a medical consultation. For personalised advice, [book an appointment](#) at Aster MIMS Kannur.