

# Pyrocarbon interposition arthroplasty

A pyrocarbon implant resurfacing an arthritic joint.

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At-a-glance recovery. Pooled from 7 published studies — your own pace will vary.

LIGHT DUTIES	MOST EVERYDAY ACTIVITIES	FINAL OUTCOME PLATEAU
desk work, driving, daily tasks	manual work, sport, gym	pain and strength
<b>2-6 months</b>	<b>12 months</b>	<b>12 months</b>
Patients typically resume light activities and driving within 2 to 6 weeks post-surgery, with immobilization protocols followed.	Maximum improvement in range of motion and strength is typically observed within the first post-operative year.	Pain relief, patient satisfaction, and functional outcomes generally plateau by 12 months with good implant longevity.

## Why this operation has been suggested

Your surgeon has suggested this procedure, called pyrocarbon interposition arthroplasty, to treat wear-and-tear arthritis at the base of your thumb. This surgery is typically offered when non-operative options like rest or splinting have not provided enough relief. It is often chosen for patients with early disease or those for whom removing the bone completely might be too destructive.

The main goal of this operation is to relieve pain while keeping your thumb length and grip strength. It also aims to improve how well you can move your thumb and keep the joint stable. Because you will wear a splint for four to six weeks, you cannot drive while it is on. You may return to driving only once the splint is removed and your surgeon clears you. See [Driving after upper-limb surgery](#) for more details.

## Before the operation

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You will need to fast before your surgery and stop certain medications as your surgeon advises. Please arrange a ride home and bring a list of your current medicines and comfortable clothing. You may need X-rays, blood tests, or an anaesthetic review to check your health. Your surgeon will use a single cut over your thumb to perform this open procedure. You must wear a thumb splint for four to six weeks after surgery. Do not drive while the splint is on because it stops you from gripping the wheel safely. You can drive again once the splint is removed and your surgeon clears you. See [Driving after upper-limb surgery](#) for more details.

## On the day

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You will arrive at the hospital and meet your anaesthetist to discuss your care plan. This operation is done under general anaesthetic. You will be fully asleep for the operation. Some patients may also have a regional nerve block for post-operative pain relief; the anaesthetist decides on the day based on your individual circumstances. Your surgeon will perform the procedure through a single open incision over the base of your thumb. Afterward, you will wake up in recovery with a splint on your hand.

You must not drive while wearing this splint because it stops you from gripping the wheel safely. The splint stays on for four to six weeks. You can drive again once the splint is removed and your surgeon clears you. For more details, see [Driving after upper-limb surgery](#).

## What the operation involves

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Your surgeon will make a single cut over the base of your thumb. This open approach gives direct access to the joint. Inside, the surgeon performs a partial trapeziectomy, removing part of the bone that forms the joint. A pyrocarbon implant is then placed into this space to act as a cushion between the bones.

This procedure is designed for early wear-and-tear arthritis that has not improved with non-surgical treatments. By placing this implant, your surgeon aims to increase how much you can move your thumb, both actively and passively. The goal is to provide joint stability while keeping your thumb at its normal length and preserving your key pinch strength.

After the implant is in place, the cut is closed with sutures. You will need to wear a thumb spica or splint for four to six weeks. You cannot drive while wearing this splint because it stops you from gripping the steering wheel safely. You may return to driving only once the splint is removed and your surgeon clears you. For more details, see [Driving after upper-limb surgery](#).

## After the operation

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You will wake up in a recovery ward. Your surgeon will manage your pain and check your wound. You will leave with a splint, a dressing, and likely a sling. This procedure uses a single cut over your thumb. Most patients stay

one night in hospital after this operation, though some are able to go home the same day. Someone must stay with you for the first 24 hours. You cannot drive while wearing the splint. This usually lasts four to six weeks. Do not drive until the splint is removed and your surgeon clears you. See our guide on driving after upper-limb surgery for more details.

## Recovery

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You will feel pain and swelling in your thumb and wrist for the first few days. This is normal. Your surgeon will prescribe medication to help you stay comfortable. Keeping your hand elevated above your heart helps reduce the swelling.

You will wear a thumb spica splint for four to six weeks. This brace protects your new joint while it heals. You cannot drive while the splint is on because you cannot grip the steering wheel safely. Wait until your surgeon removes the splint and clears you to drive before getting behind the wheel. Learn more about [Driving after upper-limb surgery](#).

Your physiotherapist will guide you through gentle exercises to restore movement. You will start with simple motions and gradually build strength. As the swelling settles, you will notice your thumb feels more stable. You will be able to perform daily tasks like holding a cup or turning a doorknob once you can grip without pain. Your timeline may differ; your surgeon and physio will guide you.

## What can go wrong

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Most patients do well, but problems can occasionally happen. Your surgeon and the team monitor you closely to spot any issue early.

If you have wear-and-tear arthritis in the joint next to your thumb, you might feel pain when you push down on your wrist. This is especially true if you play sports like tennis that require strong wrist movement. Your surgeon may advise against this procedure if you plan to keep doing these high-load activities. If you notice deep pain in this area that does not ease with simple painkillers, tell your surgeon right away.

The complications table on this page lists typical rates if you want the specifics.

## When to call us

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Call us if you have a fever, increasing redness, or discharge from your wound. Seek emergency care for sudden severe pain, calf swelling, or shortness of breath. Contact us immediately if you lose sensation or cannot move your thumb. You must not drive while wearing your splint for four to six weeks. Do not drive until your surgeon clears you after the splint is removed.

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**CQ HAND + UPPER LIMB**

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## Complication rates from published literature

Pooled from 7 published studies. These are population-level rates, not your individual risk — your surgeon will discuss what applies to you.

COMPLICATION	REPORTED RATE	NOTES
periprosthetic lucency	<b>35.0%</b>	Lucency greater than 1 mm observed in a subset of patients.
periprosthetic lucency progression	<b>26.0%</b>	Progression of radiolucent lines around the implant.
symptomatic instability	<b>10.5%</b>	Instability requiring revision surgery.
revision surgery	<b>6.52%</b>	Rate reported for instability and pain requiring implant removal and trapeziectomy.
implant failure	<b>3.4%</b>	Includes cases of implant breakage or fracture, particularly in high-load activities.
infection (deep)	<b>3.4%</b>	Deep surgical site infection requiring implant removal and antibiotic treatment.
implant breakage	<b>Rare</b>	Specific case reports of fracture lines through the center of the prosthesis due to high-load activities.
squeaking	<b>Rare</b>	Audible squeaking from implant articulation; usually benign.
osteolysis	<b>Rare</b>	Observed in male patients with high forces during demand activities.
tendon attenuation	<b>Rare</b>	Stabilizing tendon noted to be attenuated during revision surgeries.

I have read this information and have had the opportunity to ask Dr Hirpara questions about the procedure, its expected recovery, and the complications listed above.

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PATIENT – PRINT NAME

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SIGNATURE

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DATE