

Indian Invention

Cataract Surgery

Historical Background

Cataract surgery dates back to ancient India, where **Sushruta**, often regarded as the **Father of Surgery**, pioneered this procedure around the 6th century BCE. His technique involved using a curved needle (Jabamukhi Salaka) to loosen and push the cloudy lens out of the field of vision.

Patients' eyes were then soaked in warm butter and bandaged for healing. Sushruta's work influenced medical practices globally, spreading to China, Greece, and eventually Europe through translations of the **Sushruta Samhita** into Arabic.

Purpose of Cataract Surgery

Cataract surgery is performed to restore vision impaired by cataracts, which occur when the natural lens of the eye becomes cloudy. Cataracts typically develop with age but can also result from injury, certain medications, or congenital factors.

Symptoms of Cataracts

- Faded colors
- Blurred or double vision
- Halos around lights
- Sensitivity to bright light glare
- Difficulty seeing at night

Procedure Overview

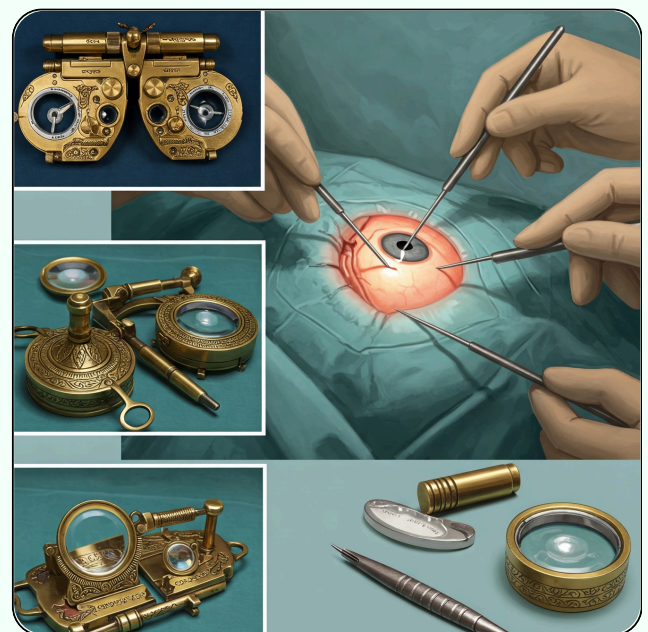
Cataract surgery involves removing the cloudy natural lens and replacing it with an artificial intraocular lens (IOL) to restore clear vision. The surgery is usually quick, performed under local anesthesia, and done on an outpatient basis.

Benefits of Cataract Surgery

- Improved vision and quality of life
- Greater independence in daily activities
- Reduced risk of falls or accidents

Types of Cataract Surgery

- **Phacoemulsification (Phaco):** The most common procedure in developed countries. An ultrasonic probe fragments the lens, which is removed by suction through a small incision. Foldable IOLs are typically inserted, and the small incision generally does not require stitches.
- **Manual Small Incision Cataract Surgery (MSICS):** Common in developing countries. The lens is manually extracted through a slightly larger incision, usually without stitches. MSICS is cost-effective and provides quick recovery with minimal complications.



- **Extracapsular Cataract Extraction (ECCE):** The lens is removed in one piece through a larger incision. This method may require stitches and is generally used as a backup in complicated cases.
- **Intracapsular Cataract Extraction (ICCE):** The entire lens and capsule are removed. This method has a higher complication rate and is rarely performed today.

- **Couching:** An ancient method involving dislodging the lens. It is no longer practiced in modern medicine.

Technological Advancements

- **Femtosecond Laser-Assisted Phacoemulsification:** Uses a laser for corneal incision, capsulotomy, and lens fragmentation, reducing the need for ultrasonic energy.
- **Cryoextraction:** A cryoprobe freezes and adheres to the lens, facilitating removal. This is occasionally used for dislocated lenses.

Types of Intraocular Lenses (IOLs)

- **Monofocal IOLs:** Provide clear vision at one distance (usually for distance vision).
- **Multifocal IOLs:** Offer both near and distance vision.
- **Toric IOLs:** Correct astigmatism.
- **Accommodative IOLs:** Shift position inside the eye to provide better focus at multiple distances.

Recovery and Aftercare

- Most patients experience improved vision within a few days.
- Full recovery takes about 4-6 weeks.
- Eye drops are prescribed to prevent infection and inflammation.
- Patients are advised to avoid strenuous activities during recovery.

Risks and Complications

While cataract surgery is generally safe, potential risks include:

- Infection
- Bleeding
- Retinal detachment
- Inflammation

These complications are rare, and the success rate of cataract surgery is over 90%.

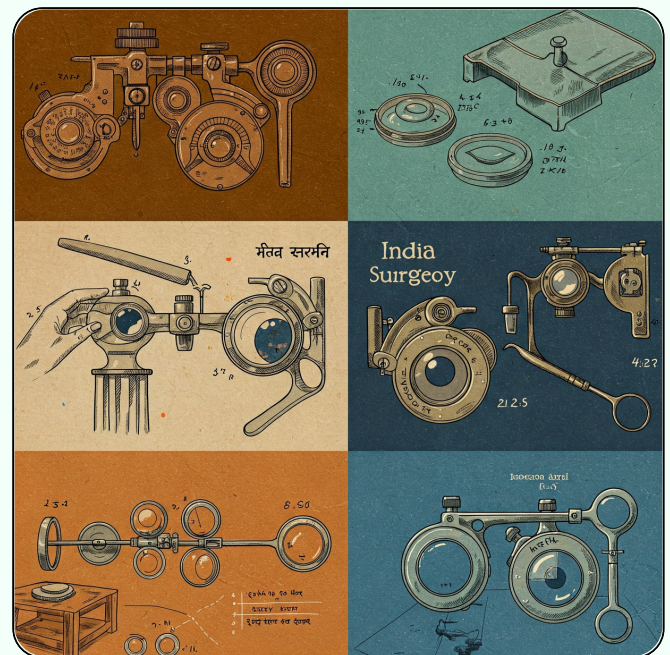
When to Consider Surgery

Cataract surgery is recommended when cataracts begin to interfere with daily activities like reading, driving, or watching television.

Global Perspective

Cataract surgery is one of the most frequently performed and successful surgeries worldwide. In the U.S. alone, over 3 million procedures are done annually.

The choice of surgical method often depends on the availability of resources, with phacoemulsification being more common in developed countries and MSICS preferred in developing regions due to its cost-effectiveness and high success rate.



Conclusion

Cataract surgery has evolved from ancient techniques to modern, minimally invasive procedures that restore vision for millions of people annually.

With a high success rate and quick recovery time, cataract surgery significantly improves patients' quality of life.