

Sustainable Cataract Surgery: What Is Holding Safe Reuse Back?

Responses from ophthalmologists and cataract surgeons on where sustainability is gaining ground in cataract surgery, where unnecessary waste is concentrated, how strongly surgeons support safe reuse, and why regulation, sterile-processing requirements, product design, and liability still determine what can change in the operating room.

Context — Signal — Judgement — Action

54	6	81.5%
Survey records	Countries represented USA, UK, Canada, Italy, France, Germany	Completion rate

WHY THIS REPORT

Cataract surgery is standardized enough to measure waste, high volume enough for small changes to scale, and regulated enough that surgeons cannot change the pathway alone

A cataract case depends on sterility, predictable instrumentation, reliable supplies, and tight operating-room workflow. Those same strengths can lock in disposable packs, single-use components, redundant packaging, partially used pharmaceuticals, and product-specific rules that are repeated across every case.

Current ophthalmic sustainability efforts increasingly focus on that systems problem. EyeSustain encourages facilities to regularly review custom packs, reassign reusable versus single-use products, use multidose topical medications when appropriate and permitted, and strengthen recycling. The Ophthalmic Instrument Cleaning & Sterilization Task Force has published specialty-specific sterilization guidance. In 2026, ASCRS, ESCRS, APACRS, and LATAMSCRS jointly called for validated multiuse phacoemulsification supply options to reduce unnecessary waste without compromising safety.

The MDForLives survey shows why the next phase is difficult. Surgeons express substantial support for reuse under equivalent safety and visual outcomes, but they also identify regulation as the leading barrier, see disposable packs and plastics as major sources of waste, and ask for evidence-based global reuse guidelines as the strongest future lever.

Methodology and data note. Audience: ophthalmologists and cataract surgeons. Survey ID: 8935144. The hidden country field contains 54 survey records across the USA, UK, Canada, Italy, France, and Germany. Core substantive items contain 44 to 47 responses. The completion rate shown in the report is 81.5%, calculated from the final substantive required-item response total relative to the country-record total because the supplied PDF does not print a separate completion-rate field. Administrative tracking, bar-ID, required-text, after-question, and honeypot fields are excluded.

EXECUTIVE SUMMARY

Six signals shaping sustainable cataract surgery

INSIGHT 01

Surgeons want global reuse guidance

54.5% say evidence-based global guidance for safe reuse of selected consumables would have the greatest future impact.

INSIGHT 02

Safe reuse receives direct support

47.7% support reusable instruments and multi-dose pharmaceuticals when safety, sterility, and visual outcomes are equivalent.

INSIGHT 03

Reuse is already the leading implemented practice

39.1% say reprocessing or sterilizing eligible reusable instruments is their team's most significant sustainability practice.

INSIGHT 04

Packs and drapes lead the waste list

35.6% identify disposable surgical packs and drapes as the single biggest source of unnecessary waste.

INSIGHT 05

Regulation is the strongest barrier

33.3% identify rigid national or institutional rules prohibiting reusable items as the biggest obstacle.

INSIGHT 06

Facility readiness remains moderate

45.5% describe their primary surgical facility as moderately prepared for eco-conscious ophthalmic innovation.

01 CLINICAL AND OPERATIONAL IMPORTANCE

Sustainability is already part of cataract decision-making, but it is not yet an equal priority everywhere

31.9% describe environmental sustainability as very important when making clinical and operational decisions about cataract surgery.

CONTEXT

Cataract surgery sits in an unusual position: it is among the highest-volume procedures in medicine, yet the pathway is highly standardized. That means repeated material choices, from drapes and packs to tubing, medications, and packaging, can create a large cumulative footprint. EyeSustain frames surgical waste reduction as an ophthalmology-wide opportunity precisely because of the procedural scale.

WHAT THE DATA SHOWS

Very important is the largest category at 31.9%. Moderately important follows at 27.7%, extremely important at 21.3%, slightly important at 12.8%, and not important at all at 6.4%. The distribution shows broad relevance without pretending that sustainability has the same weight in every facility or every decision.

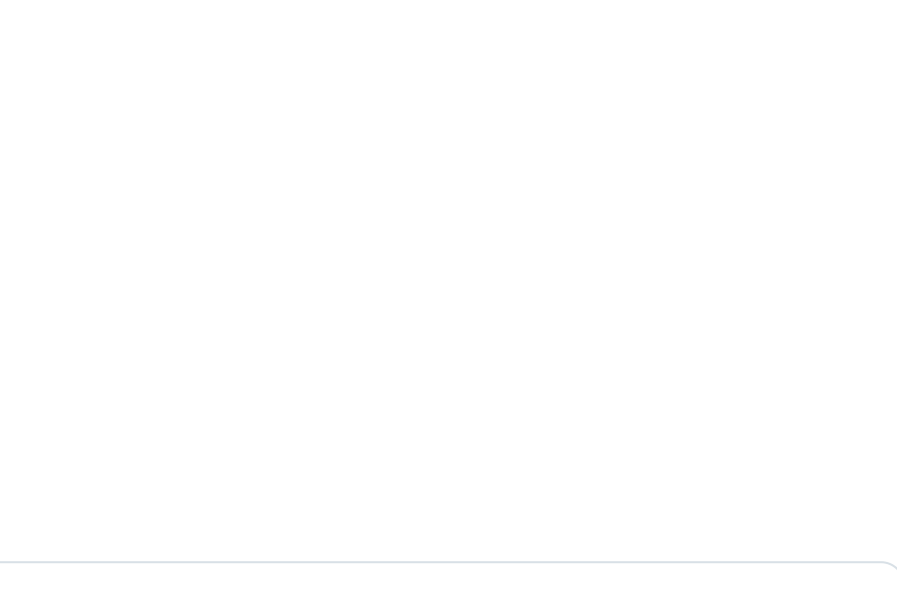
THE INSIGHT

The finding suggests that sustainability has moved into the cataract conversation, but implementation still has to coexist with safety, efficiency, cost, regulatory compliance, and visual outcomes. For many surgeons, the issue is important enough to influence choices but not strong enough to override the operating constraints around them.

WHY IT MATTERS

This matters because cataract sustainability will not scale through individual enthusiasm alone. Facilities need policies, procurement criteria, sterile, processing pathways, manufacturer options, and professional guidance that make the lower-waste choice practical rather than exceptional.

Importance of environmental sustainability in cataract decisions



02 WHAT TEAMS ARE ALREADY DOING

Reprocessing eligible instruments is the most common sustainability practice surgeons say has made it into routine cataract care

39.1% identify reprocessing or sterilizing eligible reusable surgical instruments as the single most significant practice their team has integrated.

CONTEXT

Reuse is one of the most consequential and most regulated areas of ophthalmic sustainability. Specialty-specific sterilization guidance exists for intraocular instruments, while the products available for validated reuse vary by manufacturer, jurisdiction, facility, and device labeling.

WHAT THE DATA SHOWS

Reprocessing eligible reusable instruments leads at 39.1%. Streamlined custom packs are second at 21.7%. Drug-protocol reform to reduce multi-dose eye-drop waste is 13.0%, strict OR waste segregation and medical-grade plastic recycling 8.7%, and fully digital surgical workflows 4.3%. Another 13.0% report no formal sustainability practice yet.

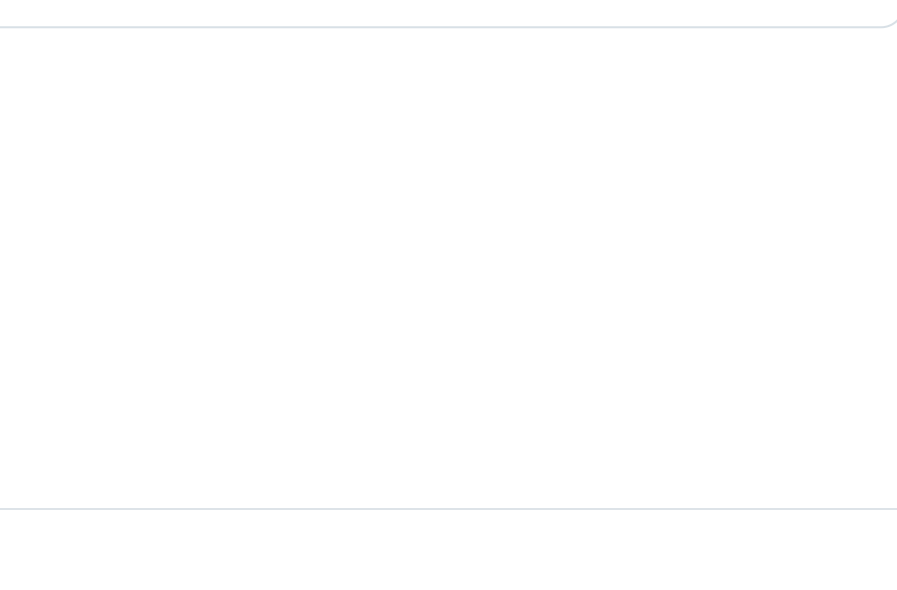
THE INSIGHT

The leading practice is notable because it sits closest to the clinical procedure itself. Unlike office recycling or paper reduction, instrument reuse requires sterile-processing confidence, team training, product validation, and governance. Its position at the top suggests that some facilities have already moved sustainability into core surgical operations.

WHY IT MATTERS

For cataract teams, the implication is to separate what is already validated and permitted from what remains restricted or off-label. A sustainable pathway is strongest when it is built around evidence, manufacturer instructions, specialty guidance, and local regulation rather than informal reuse.

Most significant sustainability practice already integrated



03 WHERE WASTE ACCUMULATES

Disposable packs and drapes edge out single-use plastics as the waste source surgeons notice most

35.6% identify disposable surgical packs and drapes as the component generating the greatest volume of unnecessary waste.

CONTEXT

Cataract packs solve a workflow problem: they place the expected sterile items together before the case starts. The sustainability problem appears when standardized packs contain items that are repeatedly opened but not used. EyeSustain recommends regular pack reassessment, and the ESCRS SIDICS framework is designed to help facilities evaluate the environmental burden of customized cataract packs.

WHAT THE DATA SHOWS

Disposable packs and drapes lead at 35.6%, closely followed by single-use plastic consumables at 31.1%. Over-packaged sterile supplies and manufacturer boxes are 17.8%. Partial-use topical pharmaceuticals and intracocular medications are 8.9%, disposable PPE 4.4%, and paper documentation or single-use sterilization wraps 2.2%.

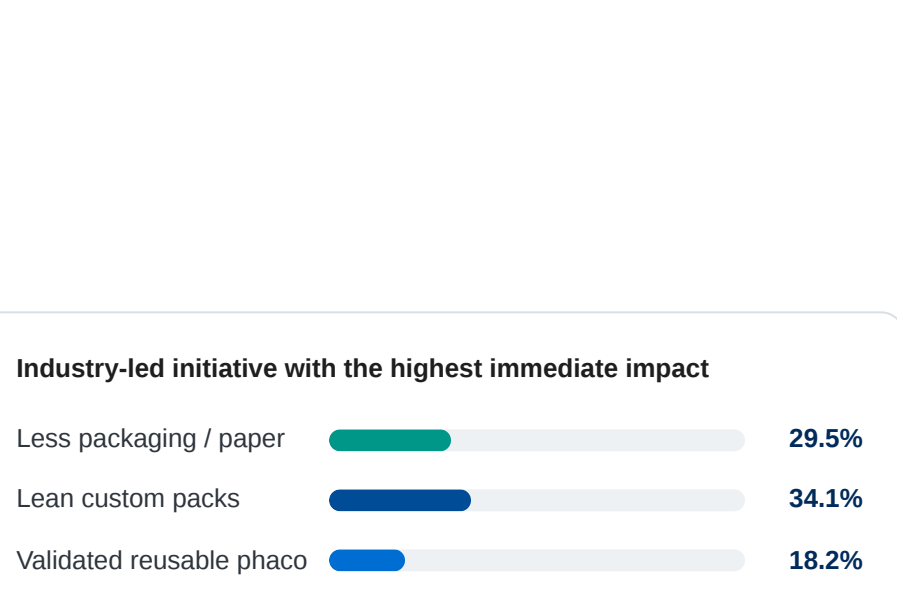
THE INSIGHT

The top three categories are all procurement-heavy. They arrive in the OR before the surgeon makes an intraoperative decision. This shifts part of the sustainability opportunity upstream toward pack design, purchasing specifications, manufacturer packaging, and the availability of reusable alternatives.

WHY IT MATTERS

Waste audits can turn this perception into action. Facilities can track which pack items are consistently unused, which materials dominate the waste stream, and which products create excessive packaging. The goal is not to make packs sparse at the expense of readiness. It is to make the default pack more closely match what routine safe surgery actually requires.

Component generating the greatest volume of unnecessary surgical waste



04 IMPLEMENTATION BARRIERS

The strongest obstacle is the regulatory environment around reuse, followed by safety and infection-control concern

33.3% identify rigid national or institutional requirements prohibiting reusable items as the single greatest barrier.

CONTEXT

Regulation, accreditation, sterile-processing policy, infection-control requirements, product labeling, and liability all shape what a cataract facility can reuse. A practice can be clinically plausible yet operationally unavailable if the product is not validated for reuse or the local rule set prohibits it.

WHAT THE DATA SHOWS

Regulatory restrictions lead at 33.3%. Infection-control concerns and perceived patient-safety risk are second at 22.2%. Cost or lack of financial incentives is 17.8%, weak institutional leadership or sustainability policy 13.3%, limited availability of validated reusable devices 8.9%, and lack of standardized professional-society guidance 4.4%.

THE INSIGHT

The survey does not position surgeons as willing to compromise safety. Instead, it shows that the sustainable option must be clinically defensible and institutionally permitted. The barrier is created when evidence, product validation, policy, and regulation move at different speeds.

WHY IT MATTERS

The 2026 multisociety position paper on multiuse phacoemulsification supplies is relevant because it explicitly calls on industry to offer multiple options and on regulators to facilitate their review. For surgeons, that kind of alignment can convert a sustainability preference into a compliant pathway.

Single greatest barrier to adopting sustainable cataract protocols



05 SUPPORT FOR REUSE

When equivalent safety, sterility, and visual outcomes are explicit, reusable instruments and multi-dose pharmaceuticals receive broad direct support

47.7% support transition toward reusable surgical instruments and multi-dose pharmaceuticals, while 38.6% strongly support it.

CONTEXT

The wording matters. The question does not ask surgeons to choose sustainability over patient outcomes. It asks what they would support if safety, sterility, and visual outcomes were equivalent. That condition mirrors the real threshold for clinical adoption.

WHAT THE DATA SHOWS

Support is selected by 47.7%, strongly supported by 38.6%, neutral by 9.1%, and opposed by 4.5%. These are presented as separate direct response categories rather than being collapsed into a derived Hero Finding.

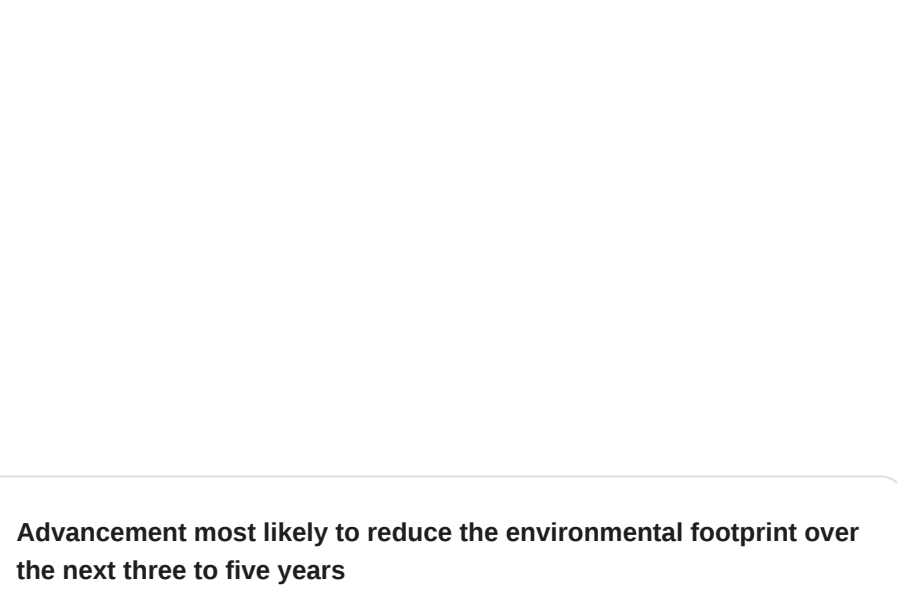
THE INSIGHT

The result suggests that surgeon resistance is unlikely to be the dominant limiting factor once clinical equivalence is established. The more difficult work is producing validated products, sterile-processing standards, multiuse protocols, regulatory permission, and liability clarity that make equivalence credible in the local setting.

WHY IT MATTERS

Current multisociety ophthalmic guidance already supports reducing unnecessary topical drug waste under proper protocols where regulations permit. The strategic opportunity is to expand similarly clear, evidence-based pathways for products and supplies that are still locked into single-use models.

Support for reusable instruments and multi-dose pharmaceuticals under equivalent outcomes



06 INDUSTRY ACTION

Surgeons see product packaging as the fastest manufacturer-controlled opportunity

34.1% say reducing plastic packaging and paper inserts would have the highest immediate impact on cataract surgical waste.

CONTEXT

Manufacturers shape the waste profile before a device or medication reaches the operating room. Product boxes, sterile barriers, printed instructions, single-use architecture, and take-back options are all upstream design decisions. Ophthalmic societies have already called for electronic instructions for use where appropriate to reduce paper and packaging burden.

WHAT THE DATA SHOWS

Manufacturing and paper-insert reduction leads at 34.1%. Lean custom packs are close behind at 29.5%. Validated high-durability reusable phacoemulsification handpieces and tips are 18.2%, manufacturer recycling and take-back programs 13.6%, and multi-use topical eye-drop bottles 4.5%.

THE INSIGHT

The leading two options have one thing in common: they reduce waste before disposal becomes the facility's problem. Smaller packaging and leaner packs do not require a surgeon to remember a new behavior during the case. They change the default material footprint.

WHY IT MATTERS

This is a procurement and industry-design opportunity. Surgical centers can ask manufacturers for lighter packaging, electronic instructions, pack customization, validated multiuse options, and take-back programs. When sustainability is written into purchasing specifications, it becomes part of product competition rather than an after-the-fact recycling effort.

Industry-led initiative with the highest immediate impact



07 FACILITY PREPAREDNESS

Most facilities are not starting from zero, but the dominant readiness level is still moderate

45.5% describe their primary surgical facility as moderately prepared to adopt eco-conscious ophthalmic innovations over the next five years.

CONTEXT

Facility preparedness is broader than surgeon willingness. It includes procurement, sterile processing, staff training, infection control, waste segregation, contract flexibility, leadership priorities, and the ability to evaluate new product claims without disrupting high-volume operating-room flow.

WHAT THE DATA SHOWS

Moderately prepared is the largest group at 45.5%. Very prepared is 27.3%, slightly prepared 15.9%, extremely prepared 6.8%, and not prepared at all 4.5%.

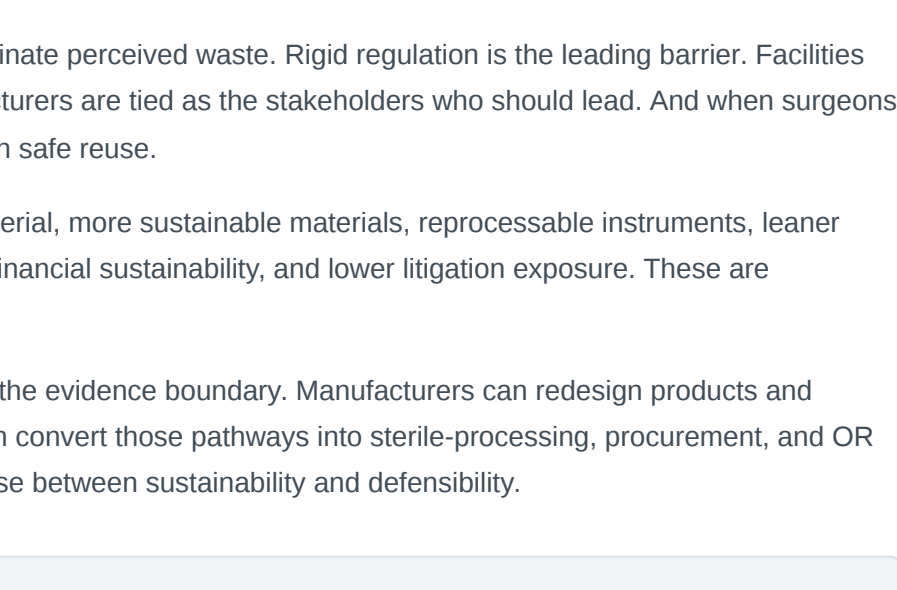
THE INSIGHT

The center of gravity is readiness with conditions. Facilities appear to have enough infrastructure to consider change, but not enough confidence or operational alignment to describe themselves as fully prepared. That fits the earlier finding that regulation, safety, and institutional policy are significant barriers.

WHY IT MATTERS

For leaders planning a sustainability program, the most useful question may be which dependency is missing: a policy, a validated product, a sterile-processing protocol, procurement flexibility, waste data, or staff ownership. Moderate readiness can become high readiness when those dependencies are addressed one by one.

Facility preparedness for eco-conscious ophthalmic innovation



08 WHO SHOULD LEAD

Professional societies and manufacturers are tied at the top because guidance and product design have to move together

34.1% assign primary leadership to professional societies, and the same 34.1% assign it to medical-device and pharmaceutical manufacturers.

CONTEXT

Sustainable surgery crosses organizational boundaries. Professional societies can define what is clinically defensible. Manufacturers determine product design, packaging, labeling, and reusable options. Hospitals and procurement teams decide what enters the facility. Regulators determine what is permitted.

WHAT THE DATA SHOWS

Professional societies and manufacturers are tied at 34.1% each. Hospital administrators and health-system procurement committees are 18.2%, government regulators and infection-control policy bodies 9.1%, and individual ophthalmic surgeons 4.5%.

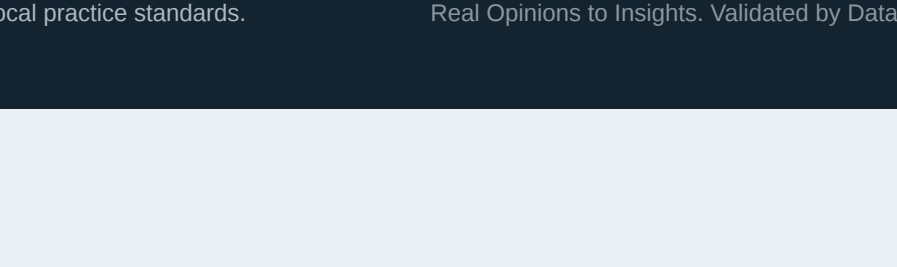
THE INSIGHT

The low share assigned to the individual surgeon is not a sign that surgeons are irrelevant. It reflects the scale of the dependencies around them. A surgeon can advocate, but cannot independently redesign an IOL box, change product labeling, rewrite an accreditation rule, or create a validated multiuse cassette.

WHY IT MATTERS

The tie at the top points toward coordinated governance. Societies can define evidence-based standards while manufacturers create products that make those standards implementable. Facilities and regulators then need to translate both into local workflows that staff can follow reliably.

Stakeholder that should take the primary leadership role



09 THE NEXT THREE TO FIVE YEARS

Surgeons put evidence-based global reuse guidance ahead of new materials and carbon auditing

54.5% say global guidelines advocating safe reuse of selected consumables would most effectively reduce the environmental footprint of high-volume cataract surgery.

CONTEXT

The future options in the survey represent three different strategies: change clinical governance through reuse guidance, change product design through eco-materials, or improve measurement through carbon-footprint auditing. Each can contribute, but they solve different constraints.

WHAT THE DATA SHOWS

Evidence-based global reuse guidelines lead at 54.5%. Eco-designed surgical consumables made from biodegradable or recycled materials are second at 29.5%. Widespread carbon-footprint auditing tools are 15.9%.

THE INSIGHT

Respondents prioritize permission and confidence over measurement. Auditing can show where emissions occur, but it does not by itself make a reusable item legal, validated, sterile, or available. Eco-design can reduce impact, but products still have to meet performance and safety requirements. Guidance changes the decision boundary.

WHY IT MATTERS

The 2026 multisociety work on multiuse phacoemulsification supplies shows what this future could look like: evidence synthesis, cross-society endorsement, industry asks, and regulatory engagement focused on a specific waste stream. The survey suggests ophthalmologists want more of that model across selected cataract consumables.

Advancement most likely to reduce the environmental footprint over the next three to five years

OPEN-ENDED PERSPECTIVE

What surgeons say has to change before cataract sustainability becomes routine

The open-ended question asked for the single most important change needed in regulation, manufacturing, or clinical practice to make cataract surgery environmentally sustainable. The source displays 20 meaningful responses across English, Italian, and German. The responses are interpreted as themes, not coded percentages.

Validated reuse and sterilization

Several responses ask for reusable instruments, easily sterilized equipment, and proof that reusable materials are safe. The emphasis is not reuse at any cost. It is reuse with evidence and clear processing standards.

Lean packs and sustainable materials

Respondents ask for fewer single-use items, more sustainable or recyclable materials, less waste from pre-made packs, and greater standardization. These comments echo the quantitative focus on packs, plastics, and packaging.

Clearer regulation and professional guidance

Several comments ask for government-rule changes, evidence-based guidelines, and clear definitions of what can be safely reused or recycled without departing from standards of care.

Liability, cost, and organizational ownership

Responses also mention financial sustainability, manufacturer negotiation, organizational priority, academy leadership, and lower litigation exposure. The minority liability theme adds important nuance: a lower-waste option may still be avoided if the surgeon feels personally exposed.

What the qualitative responses add: surgeons are asking for a coordinated pathway. They want lower-waste materials and packs, but also evidence, regulation, leadership, manufacturer participation, cost realism, and liability clarity. Sustainability is being framed as a system redesign problem, not a personal recycling habit.

CATARACT SURGERY SUSTAINABILITY LENS

What a more implementable sustainability pathway could look like

The survey does not prescribe a universal protocol. It does identify the practical sequence that may help facilities reduce waste without weakening clinical governance.

Audit what enters the room

Track unused pack contents, packaging volume, disposable plastics, partially used medications, and products that create recurring waste before choosing an intervention.

Separate validated reuse from aspirational reuse

Use products and processing pathways that are permitted, evidence-supported, and compatible with local regulation, manufacturer instructions, and sterile-processing standards.

Ask sustainability into procurement

Put suppliers for leaner packs, less paper and plastic, electronic instructions where permitted, reusable options, and take-back pathways rather than treating waste only as a disposal issue.

Make governance shared

Connect surgeons, nurses, sterile processing, infection control, procurement, administrators, professional societies, manufacturers, and regulators so responsibility does not stop with the individual clinician.

1 - Start with the waste stream surgeons already see

Review packs, drapes, plastics