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Nursing Interventions for Preventing Corneal Injuries in Patients Undergoing General Anesthesia

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ABSTRACT: Corneal injury is one of the most frequently reported ocular complications in patients undergoing general anesthesia for non-ocular surgery, and it ranges from transient epithelial defects to persistent keratitis and avoidable visual morbidity. The condition is largely preventable because its principal mechanisms—corneal exposure, desiccation, direct trauma, and chemical insult—are amenable to simple perioperative nursing measures. Corneal abrasion is the most common anesthesia-related eye injury in closed claims analyses, and it accounts for a substantial proportion of ocular claims despite its usually self-limited course. The operating room nurse is central to prevention because nursing actions begin with preoperative risk screening, continue through intraoperative

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eyelid management and device verification, and extend into post-anesthesia ocular surveillance. Evidence supports eyelid taping, preservative-free lubricants, bio-occlusive dressings, corneal shields, positioning checks, chemical safety, care bundles, structured education, and audit-based quality improvement as complementary rather than competing strategies. No single intervention is universally superior, and the most consistent reductions in corneal abrasion rates have been reported when risk-stratified multimodal protection is embedded in standardized nursing workflows.

INTRODUCTION

General anesthesia abolishes the protective blink reflex, reduces basal tear production, and leaves the corneal surface exposed to the drying effects of the operating room environment, to chemical preparation solutions, and to accidental contact from instruments, drapes, airway devices, and team members [1]. Corneal injury is the most common ophthalmologic complication associated with general anesthesia for non-ocular surgery, and its reported incidence varies widely because studies use different diagnostic criteria and different methods of ocular protection [1]. Corneal abrasion is responsible for approximately 35% of all ocular injuries in the American Society of Anesthesiologists Closed Claims database, and it is therefore a persistent patient safety concern rather than a trivial perioperative nuisance [2]. Corneal abrasions account for 3% to 8% of malpractice claims against anesthesiologists, and their associated settlements, consultations, and extended hospital stays impose avoidable clinical and financial burdens [2]. These figures are clinically important because the mechanisms of injury are well described and the preventive measures are inexpensive, simple, and within the scope of nursing practice [3]. The persistence of preventable corneal injury therefore reflects an implementation gap in perioperative care rather than a lack of effective interventions [4].

The pathogenesis of anesthesia-associated corneal injury is multifactorial, but three mechanisms predominate in clinical practice [4]. Exposure keratopathy occurs when the eyelids no longer close actively, the tear film evaporates, and the corneal epithelium loses its protective hydration, leading to epithelial cell death and sloughing [4]. Direct mechanical trauma may occur during laryngoscopy, face-mask placement, oral airway insertion, surgical draping, patient transfer, or repositioning [4]. Chemical injury most commonly results from surgical preparation solutions such as chlorhexidine or povidone-iodine that pool near the eye and seep beneath incompletely sealed eyelids, and less common mechanisms include pressure injury, preservative toxicity, and infection through a compromised epithelial barrier [5]. Each mechanism corresponds to a specific nursing action: lubrication addresses desiccation, secure eyelid closure and shielding address mechanical trauma, and careful preparation and draping technique address chemical exposure [5]. This mechanistic clarity is important because it allows nurses to select interventions that match the patient's specific risk profile rather than relying on a single universal method [5].

The epidemiological profile of patients at risk has become increasingly well defined, and it includes advanced age, prominent eyes or exophthalmos, pre-existing ocular surface disease, diabetes mellitus, prolonged surgical duration, and surgical positions such as prone, Trendelenburg, and lateral decubitus [5]. Head and neck surgery carries additional risk because the operative field is close to the orbits and because blood, irrigation fluid, and preparation solutions may accumulate near the eye [6]. Longer procedures increase the cumulative duration of corneal exposure and the number of opportunities for accidental contact, and surgery lasting three hours or more has been associated with a substantially higher odds of corneal abrasion [6]. Pre-existing ocular disease independently increases risk, which underscores the importance of preoperative ocular history taking as a nursing responsibility rather than a medical afterthought [6]. These risk factors form the basis of preoperative risk stratification tools that nurses can administer to trigger intensified ocular protection for vulnerable patients [6]. Risk stratification is therefore the first nursing intervention in the prevention cascade, and it should be documented before the patient enters the operating room [6].

The nursing role in preventing corneal injury is both autonomous and collaborative, and it spans the entire perioperative continuum [1]. Perioperative nurses are responsible for preoperative assessment, including documentation of ocular history, baseline visual symptoms, contact lens use, previous eye surgery, and factors such as dry eye [7]. During the intraoperative phase, nurses participate in positioning, draping, monitoring, and maintaining the ocular protection device, and they are often the team members who first notice that tape has loosened, that lubricant has been wiped away, or that preparation solution has pooled near the canthus [7]. In the post-anesthesia care unit, nurses perform the initial ocular assessment, elicit symptoms of pain, blurring, photophobia, or foreign-body sensation, and initiate escalation when corneal injury is suspected [7]. Each of these activities represents a discrete opportunity for prevention or early detection, and each can be standardized, audited, and

improved through nursing-led quality initiatives [7]. The nursing role is therefore not limited to task execution but includes risk communication, documentation, and system-level monitoring [7].

Despite the clarity of the risk profile and the availability of effective interventions, clinical practice remains inconsistent across institutions and specialties [1]. Audits of eye protection during general anesthesia have shown that eyelid taping alone is the most commonly used method, but application technique varies, adherence to protocols is incomplete, and postoperative ocular symptoms are not systematically recorded [8]. Quality improvement projects have demonstrated that when a standardized perioperative corneal abrasion prevention protocol is introduced, corneal abrasion rates can fall to zero within a short implementation period [8]. These findings suggest that the principal barrier to prevention is not a lack of knowledge about what works but rather a failure to translate evidence into consistent nursing workflow [8].

The anatomy and physiology of the cornea explain why anesthesia creates such a vulnerable ocular surface [9]. The corneal epithelium is the outermost barrier and the layer most vulnerable to anesthesia-related injury, and it is normally maintained by the tear film, which provides hydration, nutrients, and antimicrobial proteins [9]. General anesthesia disrupts both tear production and the reflexive blink, so the corneal surface becomes simultaneously deprived of lubrication and exposed to the drying effects of unhumidified gases and the operating room environment [9]. The epithelium also depends on the mechanical barrier created by eyelid closure, which limits evaporation and shields the cornea from particulate matter and chemical agents [9]. When eyelid closure is incomplete because of anesthetic-induced hypotonia of the orbicularis oculi muscle or surgical manipulation of the face and airway, the cornea becomes directly exposed to the environment and to any fluid that passes over the periorbital skin [1]. These anatomical and physiological considerations explain why ocular protection must be established immediately after the loss of the blink reflex rather than deferred until the surgical procedure begins [9].

The institutional consequences of corneal injury are significant and are increasingly recognized in perioperative quality frameworks [10]. Corneal abrasions generate additional ophthalmology consultations, topical antibiotic and lubricant prescriptions, follow-up visits, and, in some cases, extended hospitalization, all of which impose avoidable costs on the healthcare system [10]. From a medico-legal perspective, ocular injury accounts for approximately 3% of all anesthesia-related claims, and corneal abrasion is the most frequent ocular injury represented in closed claims analyses [2]. Although the median payment for corneal abrasion claims is lower than that for catastrophic injuries, the frequency of claims and the associated reputational and administrative burdens make prevention economically rational as well as clinically and ethically imperative [2]. Quality improvement data further suggest that the absence of a standardized prevention protocol is itself a risk factor for institutional harm, because variability in practice produces variability in protection [8]. This evidence supports a system-level nursing approach that combines education, checklists, documentation, and audit rather than relying on individual clinician vigilance alone [10].

Incidence and Risk Factors for Anesthesia-Associated Corneal Injury

The reported incidence of corneal abrasion after general anesthesia varies widely because studies differ in their diagnostic criteria, their use of slit-lamp or fluorescein examination, and the ocular protection methods employed [1]. A systematic review of perioperative corneal abrasion after non-ocular surgery reported rates ranging from 0.01% to 59%, with a cumulative incidence of 0.64% [1]. Large database analyses have reported lower rates, and an analysis of 60,965 anesthetics identified 21 cases of corneal abrasion, which illustrates how administrative data may underestimate mild or self-limited injuries [3]. Another systematic review found that corneal abrasion rates ranged from 0.02% to 59% depending on whether manual closure, lid tape, or bio-occlusive dressing was used [7]. The discrepancy between high rates in prospective ocular-surface studies and low rates in retrospective claims or administrative databases reflects under-recognition and under-reporting of mild abrasions, many of which resolve spontaneously and are never captured in quality or billing data [7]. For nursing practice, the implication is that reliance on incident reports alone will underestimate the true burden of preventable corneal injury and that active postoperative ocular surveillance is necessary to detect the full spectrum of epithelial damage [1].

Risk factors for corneal injury during general anesthesia are cumulative rather than mutually exclusive, and they should be used to calibrate the intensity of ocular protection [1]. Advanced age, prominent eyes or exophthalmos, pre-existing dry eye, diabetes mellitus, and ocular surface disease increase the likelihood of incomplete eyelid closure and impaired epithelial healing [7]. Surgical duration greater than one hour, prone, lateral, or Trendelenburg positioning, head and neck surgery, and operations in which the operative field is immediately adjacent to the orbit further increase risk [3]. Anesthetic factors include loss of the blink reflex and reduced tear production, while environmental factors include surgical preparation solutions and device-related

contact from oxygen masks, pulse oximeter probes, and drapes [3]. A patient with dry eye who undergoes a three-hour prone spine procedure carries a substantially higher risk than a healthy patient undergoing a brief superficial procedure, and the protection plan should reflect that difference [7]. This principle of risk stratification is central to contemporary evidence-based recommendations, which advocate moving away from a single universal method toward a tiered approach in which low-risk patients receive basic protection and high-risk patients receive combined modalities [4].

Table 1. Risk Factors for Corneal Injury During General Anesthesia

Domain	Risk Factor	Clinical Implication for Nursing
Patient factors	Advanced age	Prioritize risk screening in older adults and document baseline ocular symptoms
Patient factors	Prominent eyes or exophthalmos	Incomplete eyelid closure is more likely; consider lubricant plus tape or dressing
Patient factors	Pre-existing dry eye or ocular surface disease	Avoid preservative-containing lubricants; intensify lubrication and surveillance
Patient factors	Diabetes mellitus	Impaired epithelial healing; ensure meticulous protection and early postoperative review
Surgical factors	Duration greater than one hour	Reassess protection at intervals; cumulative exposure increases risk
Surgical factors	Prone, lateral, or Trendelenburg positioning	Dependent eye is at higher risk; verify tape integrity after positioning
Surgical factors	Head and neck surgery	Proximity of operative field to orbit; protect eyes before preparation and draping
Anesthetic factors	Loss of blink reflex and reduced tear production	Apply protection immediately after induction, before airway manipulation
Environmental factors	Surgical preparation solutions	Seal eyelids before skin preparation; direct solutions away from the eye
Device-related factors	Oxygen masks, pulse oximeter probes, drapes	Position devices away from the eye; avoid pressure on the globe

Consequences of Corneal Injury for Patients and Healthcare Systems

The patient experience of corneal abrasion is disproportionately severe relative to the size of the epithelial defect because the cornea is densely innervated by the ophthalmic division of the trigeminal nerve [2]. Even a small abrasion produces sharp pain, marked photophobia, excessive tearing, and a sensation of a foreign body that can persist for 24 to 48 hours [2]. These symptoms interfere with sleep, oral intake, and mobilization, and they can transform an otherwise uncomplicated surgical recovery into a distressing and prolonged hospital stay [3]. More serious sequelae include recurrent corneal erosion, microbial keratitis, and persistent epithelial defects, particularly in patients with diabetes, ocular surface disease, or impaired immune function [6]. Although permanent visual loss from corneal abrasion is uncommon, the psychological impact of ocular pain and the fear of visual impairment should not be underestimated, and patient satisfaction scores are increasingly sensitive to preventable perioperative complications of this kind [6]. The institutional consequences include additional consultations, prescriptions, follow-up visits, and extended hospitalization, all of which impose avoidable costs on the healthcare system [8].

Preoperative Nursing Assessment and Risk Stratification

Preoperative risk stratification is the first nursing intervention in the prevention cascade, and it begins with a structured ocular history [1]. The nurse should document baseline visual acuity, the presence of dry eye, foreign-body sensation, photophobia, contact lens use, previous ocular surgery or trauma, and any current ocular medications, because each of these factors influences the choice and intensity of intraoperative protection [7]. Patients with diabetes mellitus deserve particular attention because

diabetes is associated with corneal epithelial fragility, delayed wound healing, and an increased risk of exposure keratopathy under anesthesia [7]. The preoperative assessment should also record the planned surgical position and the expected duration of surgery, since procedures lasting longer than one hour and procedures performed in the prone, lateral, or Trendelenburg positions are associated with a higher incidence of corneal injury [1]. When these data are combined into a simple risk score, the nurse can classify the patient as low, moderate, or high risk and communicate this classification to the anesthesia provider and the circulating nurse so that the appropriate protection strategy is selected before induction [10]. The use of a preoperative risk-factor checklist transforms risk assessment from an implicit clinical judgment into an explicit, auditable nursing action and ensures that high-risk patients are identified before they enter the operating room rather than after the injury has occurred [10].

Intraoperative Nursing Interventions: Eyelid Closure and Taping

Eyelid closure is the foundational intraoperative ocular protection measure, and its effectiveness depends on timing, technique, and maintenance [5]. Protection should be applied immediately after the loss of the blink reflex, which occurs at induction of anesthesia and before airway manipulation, because the cornea is already exposed once the eyelids no longer close reflexively [10]. Manual closure alone is insufficient, and a systematic review reported that manual closure was associated with corneal abrasion rates of up to 59%, whereas lid tape reduced the rate to approximately 0.2% and bio-occlusive dressing to 0.02% [5]. The choice of tape matters because aggressive adhesives can cause eyelid skin injury, particularly in older patients with fragile skin, and tape that becomes loose during positioning or draping provides only the illusion of protection [10]. Hypoallergenic paper tape applied gently from the medial to the lateral canthus, with care to avoid taping the eyelashes into the eye and to avoid pressure on the globe, is a widely used technique, and the tape should be rechecked after the patient is positioned and again after draping [5]. The nurse's role includes not only applying the tape but also confirming that the eyelids are fully closed beneath it, because a partially open eyelid under tape still permits corneal exposure and desiccation [10].

Ocular Lubricants and Ointments

Ocular lubricants supplement the failing tear film and create a hydrophobic barrier that reduces evaporative loss from the corneal surface [11]. A randomized clinical trial comparing eye ointment, adhesive tape, and no protection found that the overall incidence of corneal epithelial defects was 10%, with 90% of defects occurring in the unprotected control group, 6.6% in the tape group, and 3.3% in the ointment group [11]. A Korean randomized study comparing eyelid taping alone with taping plus three different ointments found that corneal erosion developed in 12.5% of eyes in the taping-alone group but in 0% of eyes in the group receiving taping with solcoseryl ointment and 2.5% in the group receiving taping with carbomer ointment [5]. These findings indicate that ointment adds measurable protection beyond taping alone, particularly when the ocular surface is already compromised [11]. However, the choice of lubricant requires nursing and anesthetic judgment because petroleum-based ointments are flammable and should be avoided when electrocautery or open oxygen is used near the face, and preservative-containing preparations can cause corneal epithelial sloughing and conjunctival hyperemia [6]. The nurse should document the type and time of lubricant application and should ensure that the lubricant is not wiped away during facial preparation or surgical draping [11].

Bio-Occlusive Dressings, Goggles, and Corneal Shields

Bio-occlusive dressings and transparent adhesive films create a sealed microenvironment over the closed eyelids that prevents evaporative loss and blocks particulate and chemical contamination [12]. Systematic reviews have identified bio-occlusive dressing as the single most effective prevention technique in terms of reducing corneal abrasion rates, with reported rates as low as 0.02% compared with 0.2% for lid tape and 59% for manual closure [7]. A retrospective audit of a protocol mandating systematic bio-occlusive dressing use found that the intervention was associated with lower rates of general anesthesia-related exposure keratopathy and that no adverse events such as skin tears or loss of eyelashes occurred during the study period [12]. Goggles and moisture chambers are particularly useful for patients in the prone position because they create a humid microenvironment around the eye and protect the globe from pressure and dependent edema, but they must be correctly sized and positioned to avoid direct pressure on the cornea [5]. Corneal shields, usually made of polycarbonate or stainless steel, provide rigid protection for procedures in which the operative field is immediately adjacent to the orbit, such as orthognathic or orbital surgery, and they are applied after instillation of a topical anesthetic and ophthalmic lubricant to the concave surface of the shield [12]. The nurse's responsibility includes verifying that the shield is correctly seated, that the globe is fully covered, and that the shield is removed at the end of the case without causing corneal contact [12].

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Positioning, Draping, and Environmental Protection

Surgical positioning has a direct effect on ocular risk, and nursing actions during positioning and draping can either mitigate or amplify that risk [13]. Lateral positioning increases the risk of corneal injury in the dependent eye, and one large study reported an odds ratio of 4.7 for eye injury associated with lateral positioning during surgery [14]. Prone positioning presents additional hazards, including direct pressure on the globe, obstruction of venous drainage leading to periorbital edema, and accumulation of irrigation fluid or blood near the eye [15]. The nurse should verify that the eyes are free of external pressure after final positioning, that the head is supported so that the orbit is not compressed, and that the ocular protection device remains intact after the surgical team has applied drapes [16]. Draping technique also matters because drapes should be positioned so that they do not lift the tape or displace the dressing, and the nurse should avoid placing adhesive drape edges under tension across the periorbital skin [15]. Chemical protection is equally important because preparation solutions such as chlorhexidine are toxic to the corneal epithelium and can cause permanent damage even after brief exposure, so the eyelids should be sealed before skin preparation and solutions should be directed away from the eye and absorbed promptly if pooling occurs near the canthus [13].

Table 2. Nursing Interventions Across the Perioperative Continuum

Phase	Nursing Intervention	Evidence Basis and Nursing Action
Preoperative	Structured ocular history and risk scoring	Identify dry eye, diabetes, exophthalmos, planned position, and expected duration; communicate risk to team
Preoperative	Patient education about avoiding eye rubbing	Instruct patient before sedation; document understanding
Intraoperative: induction	Immediate eyelid closure and taping after loss of blink reflex	Apply before airway manipulation; verify complete lid closure
Intraoperative: maintenance	Ocular lubricant (preservative-free)	Instill before taping or dressing; avoid flammable bases near electrocautery
Intraoperative: maintenance	Bio-occlusive dressing or corneal shield for high-risk patients	Select based on position, procedure, and risk score; verify seal and seating
Intraoperative: positioning	Recheck protection after final positioning and draping	Ensure no pressure on globe, no tape lift, no pooling of prep solution
Intraoperative: environment	Direct prep solutions away from eyes; position oxygen mask and pulse oximeter away from orbit	Absorb pooled solution; avoid device contact with eye
Postoperative: PACU	Systematic ocular assessment for pain, blurring, photophobia, foreign-body sensation	Use structured questioning; initiate ophthalmology consult for persistent symptoms
Postoperative: PACU	Prevent eye rubbing during emergence	Position hands away from face; use verbal reassurance and physical barriers as needed
System level	Documentation, audit, and feedback on protection compliance and abrasion rates	Embed ocular protection in electronic record; review incidents and near-misses

Bundled Care and Standardized Nursing Protocols

Individual interventions are more effective when they are combined into a care bundle that specifies who does what, when, and how [17]. A care bundle for perioperative corneal protection typically includes preoperative risk assessment, immediate eyelid closure and taping at induction, risk-based use of lubricant and bio-occlusive dressing, positioning checks after draping, and postoperative ocular surveillance with a defined escalation pathway [17]. The evidence supports this bundled approach because no single method has been shown to be universally superior; rather, the combination of methods compensates for the limitations of each individual technique [18]. For example, taping alone may fail if the tape loosens, but the addition of a

lubricant ensures that the corneal surface remains hydrated even if the seal is incomplete, and a bio-occlusive dressing provides a second barrier against chemical and particulate exposure [18]. A systematic review concluded that standardized ocular protection, reporting, and education initiatives maximally decrease rates of perioperative corneal abrasions after non-ocular surgery, and the authors emphasized that the effectiveness of any bundle depends on consistent execution by the entire perioperative team [19]. Nursing leadership is essential for bundle implementation because nurses are responsible for most of the discrete tasks within the bundle and because nurses are best positioned to detect deviations from the protocol in real time [17].

Table 3. Components of a Perioperative Corneal Protection Care Bundle

Bundle Element	Specification	Responsible Role
Risk screening	Preoperative checklist documenting ocular history, diabetes, dry eye, position, and expected duration	Preoperative nurse
Timing of protection	Eyelid closure and taping immediately after loss of blink reflex, before airway instrumentation	Anesthesia nurse or circulating nurse
Lubrication	Preservative-free ophthalmic ointment or gel before taping in all cases; mandatory in high-risk patients	Anesthesia provider with nurse verification
Barrier protection	Bio-occlusive dressing or corneal shield for high-risk, prone, lateral, or head-and-neck cases	Circulating nurse
Positioning check	Visual and tactile confirmation that eyes are closed, tape is intact, and no pressure on globe after final positioning	Circulating nurse with anesthesia team
Chemical safety	Eyelids sealed before prep; prep solution directed away from eyes; immediate absorption of pooled solution	Circulating nurse and surgeon
Postoperative surveillance	Structured ocular symptom assessment on PACU admission and at discharge; escalation pathway for suspected abrasion	PACU nurse
Documentation and audit	Record protection method, timing, and postoperative ocular findings; monthly review of compliance and abrasion rates	Nurse manager and quality team

Nursing Education and Competency Development

Education is a necessary but insufficient condition for sustained improvement in ocular protection [20]. Studies of anesthesia and perioperative providers have shown that knowledge gaps exist regarding corneal abrasion risk factors, prevention techniques, and postoperative recognition, and that targeted education can improve knowledge and change self-reported practice [20]. However, education alone does not guarantee adherence, and the quality improvement literature suggests that education must be combined with workflow redesign, checklists, audit and feedback, and visible leadership support to produce durable changes in practice [19]. Nursing education on ocular protection should include the anatomy and physiology of the corneal surface, the mechanisms by which anesthesia and surgery compromise corneal integrity, the comparative effectiveness of different protection methods, the correct technique for taping and applying bio-occlusive dressings, and the signs and symptoms of corneal abrasion that should trigger escalation [20]. Simulation-based training and competency assessment can be particularly valuable for ensuring that nurses can correctly apply and verify ocular protection devices, because technique errors such as incomplete lid closure, tape placed under tension, or a shield that does not cover the entire cornea are common and preventable causes of failure [20]. Education should also extend to patient teaching because patients who understand why they should not rub their eyes during emergence are more likely to cooperate with protective instructions [17].

Documentation, Quality Improvement, and Patient Education

Documentation is the bridge between individual nursing actions and system-level learning [21]. When nurses record the method of ocular protection used, the time of application, the presence of risk factors, and the results of postoperative ocular assessment, the institution acquires the data needed to identify gaps, benchmark performance, and evaluate the effect of practice changes [21]. Quality improvement projects in this field have demonstrated that simply measuring corneal abrasion rates and

sharing the data with frontline staff can stimulate practice change, and that the introduction of a standardized prevention, diagnosis, and treatment plan can reduce the relative risk of corneal abrasion by approximately 59% [21]. One institution reported that after implementing a multidisciplinary Plan-Do-Study-Act initiative with team-based education, a perioperative corneal abrasion protocol, and real-time data feedback, the corneal abrasion injury rate fell from 2.1% to 0% within eight weeks, although longer follow-up was planned to confirm sustainability [21]. These results should be interpreted with caution because quality improvement studies are susceptible to secular trends and Hawthorne effects, but they nevertheless provide practical evidence that nursing-led standardization can produce meaningful reductions in preventable ocular harm [21]. Patient education is a complementary strategy because preoperative instruction to avoid eye rubbing, to report ocular symptoms promptly, and to refrain from touching the eyes after surgery empowers patients to participate in their own protection and facilitates early detection if an abrasion does occur [22].

Interprofessional Collaboration and Communication

Corneal protection is a team responsibility, and nursing interventions are most effective when they are embedded in structured interprofessional communication [17]. The anesthesia provider selects the protection method and applies lubricants in many institutions, the circulating nurse applies tape or dressings and monitors the field, the surgical team controls preparation solutions and draping, and the post-anesthesia care unit nurse performs the first structured ocular assessment [17]. Handoffs between these roles are high-risk moments for loss of information, and the ocular protection plan should be included in the surgical safety checklist and in verbal handoffs at the time of transfer to the operating room, after positioning, and at the end of the case [18]. When a patient is identified as high risk, the nurse should communicate the specific risk factors and the intended protection strategy to the receiving team so that the plan is not inadvertently omitted during a busy turnover [18]. Interprofessional collaboration also extends to ophthalmology because when postoperative symptoms suggest corneal abrasion, the nurse should initiate a consultation promptly rather than waiting for the next scheduled surgical follow-up, since early ophthalmologic assessment and treatment can reduce pain, prevent infection, and shorten recovery [22]. The evidence-based recommendation that perioperative care nurses should automatically request an ophthalmology consultation for every case of postoperative painful eye after non-ophthalmologic surgery reflects this principle of proactive escalation [22].

CONCLUSION

Corneal injury during general anesthesia is a frequent and preventable issue within nursing practice. Factors such as the loss of blink reflex, decreased tear production, incomplete eyelid closure, and exposure to chemicals contribute to corneal vulnerability. Effective nursing interventions include eyelid taping, ocular lubricants, bio-occlusive dressings, corneal shields, and structured postoperative surveillance, best applied in a risk-stratified care bundle. Preoperative assessments help identify at-risk patients, while documentation and interprofessional communication ensure consistent execution and improvement of care. The gap between evidence and implementation stems from inconsistent practices, which can be addressed through nursing leadership focused on education and quality improvement. Incorporating ocular protection into routine nursing workflows is essential for patient safety, aiming to reduce harm and associated costs.

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