

Review Article

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Fear experienced by patients and their caregivers while performing tracheostomy suctioning: a comprehensive review

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ABSTRACT

Tracheostomy suctioning is an essential procedure to prevent airway obstruction, yet it often triggers significant fear and anxiety in both patients and their caregivers. This comprehensive review analyzes the psychological and physical challenges associated with the procedure, drawing from peer-reviewed studies, case reports, and clinical guidelines. Patients frequently report profound fear linked to sensations of choking, breathlessness, pain, and a loss of control, which can contribute to long-term anxiety and depression. Concurrently, caregivers experience intense stress, fearing they might cause harm, complications like hypoxia or infection, or manage the procedure incorrectly due to inadequate training. This shared emotional burden can lead to burnout and negatively impact adherence to care. The findings confirm that fear associated with tracheostomy suctioning has significant psychological and clinical implications. Addressing these concerns through comprehensive caregiver training, patient reassurance, integrated psychological support, and adherence to standardized, gentle techniques is critical. Healthcare providers play a pivotal role in creating a supportive environment that empowers both patients and caregivers, ultimately reducing anxiety and improving the safety and efficacy of tracheostomy care.

Keywords: Tracheostomy suctioning, Patient anxiety, Caregiver stress, Psychological impact, Airway management

INTRODUCTION

A tracheostomy is a surgical procedure that creates an opening into the trachea through the neck to facilitate breathing. This intervention is often necessary for patients with respiratory failure, severe neuromuscular diseases, upper airway obstructions, or those requiring prolonged mechanical ventilation.¹ As healthcare systems evolve, there is a discernible trend towards earlier hospital discharge, shifting the locus of complex care, including tracheostomy management, from the hospital to the home. This transition, while beneficial in many respects, places an immense responsibility on patients and their family caregivers. While it is a life-saving procedure, the presence of a tracheostomy tube necessitates meticulous and regular

maintenance to ensure a patent airway. Among the most crucial and frequently performed of these maintenance tasks is tracheostomy suctioning, the process of removing mucus and secretions from the airway.

Despite its clinical necessity, the act of suctioning is a significant source of pervasive fear and anxiety for both the individuals undergoing the procedure and the caregivers responsible for performing it. For patients, the insertion of a foreign catheter into their direct airway can evoke powerful, primal sensations of choking, breathlessness, and general discomfort.² For caregivers, who are often family members with little to no prior medical background, the responsibility of performing such a delicate and potentially life-sustaining procedure is

daunting. They commonly harbor deep-seated fears of harming their loved one, causing acute complications like hypoxia or bleeding, or failing to perform the task correctly, leading to devastating adverse outcomes.³ These intertwined emotional and psychological challenges create a cycle of fear that can negatively impact adherence to care protocols, potentially leading to airway obstruction, infection, and other preventable complications, thereby subverting the therapeutic goals of the tracheostomy itself.³ This review seeks to synthesize the existing literature to provide a comprehensive overview of this critical issue.

This comprehensive review aims to explore the multifaceted dimensions of fear experienced by both patients and caregivers during tracheostomy suctioning. We will delve into the psychological and physiological implications of this fear, analyze its root causes from both perspectives, and propose evidence-based, multi-modal strategies for mitigating anxiety. By illuminating the depth of this shared emotional burden and offering actionable solutions, we can work towards a paradigm of care that enhances patient safety, builds caregiver confidence, and improves the overall quality of life for all involved in the home tracheostomy care journey.

THE LANDSCAPE OF FEAR AMONG PATIENTS

Patients undergoing tracheostomy suctioning report a profound and often traumatic level of fear that stems from a combination of visceral physical sensations, deep psychological vulnerability, and the inherently invasive nature of the procedure. This fear is not a monolithic experience; it is highly variable and can be influenced by the patient's underlying diagnosis, the duration of the tracheostomy, their cognitive state, and their cumulative experiences with suctioning over time.

THE PRIMAL FEAR OF CHOKING AND BREATHLESSNESS

One of the most frequently and intensely cited fears among patients is the sensation of choking and being unable to breathe³. A tracheostomy patient's entire respiratory function is dependent on the patency of their artificial airway. The suctioning process, by its very design, temporarily occludes that airway to generate the negative pressure required to remove secretions.⁴ This transient obstruction can create a powerful and terrifying sensation of suffocation, capable of triggering acute panic attacks and heightening ambient anxiety levels.⁵ This experience is particularly pronounced in patients with pre-existing respiratory conditions, such as chronic obstructive pulmonary disease (COPD) or restrictive lung diseases, who already live with a diminished respiratory reserve. For them, the temporary occlusion during suctioning feels even more threatening and prolonged.⁶ The body's physiological response to this perceived threat- a sympathetic surge leading to tachycardia, tachypnea, and muscle tension- can paradoxically exacerbate the feeling

of breathlessness, creating a vicious cycle of fear and physiological distress. Furthermore, the procedure can stimulate a vagal response or bronchospasm, further intensifying the sensation of airway compromise.

PAIN, DISCOMFORT, AND REPETITIVE PHYSICAL TRAUMA

Pain and discomfort are significant contributors to the fear associated with suctioning.⁷ The procedure involves the repeated passage of a catheter that makes direct contact with the highly sensitive mucosal lining of the trachea. This can cause significant irritation, trigger violent coughing spasms, and activate the gag reflex.^{8,9} For patients who have recently undergone the tracheostomy placement or those with particularly sensitive or inflamed airways, the pain can be acute and sharp¹⁰. When suctioning must be performed multiple times a day, this repeated mechanical irritation can lead to chronic soreness, tracheal inflammation, and a persistent, conditioned dread of the procedure. Moreover, improper technique, such as using an oversized catheter, excessive suction pressure, or a traumatic insertion method, can cause mucosal trauma, bleeding, and increase the risk of secondary infection. This physical harm reinforces the patient's association of suctioning with pain and danger, building a powerful psychological barrier to acceptance of this necessary care.

ANXIETY FROM LOSS OF CONTROL AND PROFOUND COMMUNICATION BARRIERS

A critical psychological component of patient fear is the profound loss of control and agency.¹¹ Natural breathing is an autonomous, subconscious process fundamental to one's sense of self-regulation. A tracheostomy fundamentally alters this, making the patient acutely dependent on a caregiver for the vital function of airway clearance.¹² This enforced dependence can foster debilitating feelings of vulnerability, helplessness, and intense anxiety. This is compounded dramatically by the inability to verbally communicate during the procedure. Patients cannot voice their discomfort, ask the caregiver to pause or stop, or express their immediate needs, which exacerbates their sense of powerlessness and existential fear.^{14,15} This communication barrier can transform a routine medical procedure into a deeply isolating and distressing event, where the patient feels trapped, unheard, and unable to influence what is happening to their own body. This can lead to a state of learned helplessness, where the patient ceases to attempt communication, resigning themselves to the distressing experience.

LONG-TERM EMOTIONAL AND PSYCHOLOGICAL STRESS

For patients living with a long-term or permanent tracheostomy, the recurrent fear associated with suctioning contributes to a significant and cumulative emotional and psychological burden¹⁶. The constant reliance on an invasive medical procedure for survival can lead to the

development of chronic anxiety disorders, clinical depression, and even symptoms consistent with post-traumatic stress disorder (PTSD).¹⁷ The visible presence of the tracheostomy tube serves as a constant, public reminder of their underlying medical condition and dependency, profoundly impacting body image, self-esteem, and social interaction.¹⁸ Social stigma, whether real or perceived, can lead to isolation. Over time, some patients may develop maladaptive avoidance behaviors, resisting or delaying necessary suctioning out of fear. This avoidance, while understandable from a psychological standpoint, is clinically dangerous and can lead to serious respiratory complications, including mucous plugging, hypoxia, respiratory infections, and pneumonia, creating a perilous conflict between psychological self-preservation and physiological necessity.

THE CAREGIVER'S BURDEN: A MIRROR OF FEAR

The fear experienced by patients is often mirrored, and in some cases magnified, in their family caregivers. These individuals, typically spouses, parents, or adult children, are thrust into a clinical role with immense responsibility, navigating a landscape of anxiety rooted in the potential for catastrophic error and the profound desire to protect their loved one.^{19,20}

THE OVERWHELMING FEAR OF CAUSING DIRECT HARM

Perhaps the most significant and pervasive fear for caregivers is the possibility of causing direct physical harm during suctioning.²¹ Lacking formal clinical training, caregivers worry intensely about technical errors: inserting the catheter too deep and hitting the carina, using too much force and damaging the delicate tracheal lining, or causing significant bleeding.²² This fear often leads to hesitant, tentative techniques. For instance, a caregiver paralyzed by the fear of going too deep may not insert the catheter far enough to be effective, resulting in inadequate secretion removal and an increased risk of a mucous plug and airway obstruction.²² Conversely, stories or warnings about the dangers of over-suctioning can lead to fears of causing mucosal trauma, inflammation, or infection, creating a paralyzing sense of uncertainty about the correct approach.²³ This delicate balance between under- and over-performing the procedure, where both extremes carry significant risk, is a constant and heavy source of stress and moral distress.

PERVASIVE ANXIETY OVER UNSEEN MEDICAL COMPLICATIONS

Caregivers are often acutely aware of the list of potential medical complications associated with suctioning, a knowledge that fuels their anxiety.²⁴ These adverse effects, often explained during a brief hospital discharge training, can feel overwhelming. They include: (a) hypoxia: If suctioning is prolonged beyond the recommended 10-15

sec, it can dangerously deplete the patient's oxygen levels; (b) bradycardia: vagal stimulation from the catheter hitting the carina can cause a sudden and dangerous drop in heart rate; (c) infection: a break in sterile or clean technique can introduce pathogens directly into the lower airway, leading to bronchitis or pneumonia; and (d) aspiration: If not coordinated correctly around cuff management or patient positioning, secretions pooled above the cuff can be aspirated into the lungs.²⁵

For a non-medical person, these potential complications are terrifying. This anxiety is often compounded by persistent self-doubt and the fear of making a single, catastrophic mistake that could jeopardize the health or life of their loved one. Every suctioning pass becomes a high-stakes event.

THE TOLL OF EMOTIONAL BURDEN AND PSYCHOLOGICAL BURNOUT

The emotional toll of caregiving for a patient with a tracheostomy is profound and cumulative.²⁶ Witnessing a loved one's distress during suctioning- seeing them cough violently, gag, or show visible signs of panic- is deeply emotionally draining. This repeated exposure to a stressful, empathetic event, combined with the immense responsibility for the patient's survival, places caregivers at an extremely high risk for compassion fatigue, chronic stress, and eventual burnout.²⁷ Many family caregivers report pervasive feelings of isolation, social withdrawal, and helplessness, particularly if they feel they lack a robust support system or adequate ongoing professional guidance.²⁸ This psychological burden can directly impact the caregiver's own physical and mental health, leading to sleep deprivation, anxiety disorders, and depression, which in turn diminishes their capacity to provide safe and effective care over the long term.

THE FOUNDATIONAL IMPACT OF INADEQUATE TRAINING AND CONFIDENCE

A primary driver of caregiver anxiety is a lack of comprehensive, competency-based training and the resulting lack of confidence.²⁹ Often, the training provided upon hospital discharge is brief, rushed, and conducted in an idealized environment that does not reflect the realities of home care. This leaves caregivers feeling dangerously unprepared to handle variations in the patient's condition, troubleshoot equipment malfunctions, or confidently recognize and manage early signs of an emergency.³⁰ This knowledge and skills gap prevents caregivers from performing suctioning with the calm confidence required to both execute the task safely and reassure the anxious patient. The fear of using improper techniques or misinterpreting symptoms can lead to critical hesitation and indecisiveness when rapid action is needed, highlighting a systemic need for better, more sustained, and realistic healthcare guidance and education for family caregivers.³¹

STRATEGIES FOR MITIGATING FEAR AND IMPROVING CARE

Addressing the deeply intertwined fears of both patients and caregivers is not merely a matter of improving comfort; it is an essential component of ensuring patient safety, procedural efficacy, and long-term well-being. A multi-pronged, human-centered approach that combines robust education, dedicated psychological support, and the implementation of standardized best practices is required.

Foundational education and comprehensive, simulation-based training

Education is the absolute cornerstone of empowering caregivers and reducing their fear³³. Caregivers require comprehensive training programs that extend far beyond a single, passive demonstration. An ideal program should be multimodal and include (a) hands-on simulation: using low- or high-fidelity simulation manikins allows caregivers to practice the psychomotor skills of suctioning in a safe, controlled environment. This helps them build muscle memory, troubleshoot problems, and gain confidence before performing the procedure on their loved one.^{34,35} Simulation is particularly valuable for practicing emergency scenarios, such as managing a mucous plug or an accidental decannulation; (b) the 'teach-back' method: after instruction, caregivers should be required to "teach back" the procedure in their own words and demonstrate the skill. This active learning technique ensures comprehension and allows instructors to identify and correct any misunderstandings; (c) emergency preparedness: Training must explicitly cover how to recognize and respond to common complications. This includes developing clear, simple action plans for scenarios like mucous plugging, bleeding, or signs of respiratory distress, reducing panic in a real crisis; and (d) patient communication training: caregivers should be taught specific techniques for communicating with the patient before, during, and after the procedure to provide reassurance, explain steps, and establish a sense of partnership and control for the patient.

THE CRITICAL ROLE OF INTEGRATED PSYCHOLOGICAL SUPPORT

Given the significant emotional toll on both parties, proactive and integrated psychological support is indispensable.³⁹

Routine screening

Both patients and caregivers should be routinely screened for anxiety and depression. Normalizing these conversations can reduce stigma and facilitate early intervention.

Counseling and therapeutic services

Access to professional counseling, particularly from therapists experienced in chronic medical illness, can help both patients and caregivers develop effective coping mechanisms, such as Cognitive behavioral therapy (CBT) to manage anxious thoughts, or mindfulness-based stress reduction.⁴⁰

Peer support networks

Connecting with other families navigating similar challenges can profoundly reduce feelings of isolation. Moderated peer support groups, either in-person or online, allow for the sharing of practical experiences, emotional validation, and effective coping strategies in a community of true understanding.⁴¹

Fostering open dialogue with the healthcare team

Healthcare providers must cultivate a relationship where patients and caregivers feel safe to voice their fears without judgment. Taking the time to answer questions thoroughly and demystify the procedure can correct misconceptions and build a therapeutic alliance.⁴²

Enhancing patient comfort through technique, technology, and environment

Minimizing the physical discomfort and trauma of the procedure can directly reduce a patient's fear and, by extension, the caregiver's distress.⁴³

Adherence to gentle and appropriate technique

Strict adherence to evidence-based guidelines on using the smallest effective catheter size, the lowest effective suction pressure, and limiting each suction pass to 10-15 sec is critical. Using a sterile, water-soluble lubricant can ease catheter insertion and reduce mucosal irritation.

Optimizing humidification

Ensuring adequate airway humidification is crucial. Well-hydrated secretions are thinner and easier to remove, requiring less suction pressure and fewer passes, making the entire procedure less traumatic.

Pre- and post-procedure practices

For patients on supplemental oxygen, pre-oxygenating before suctioning can prevent desaturation and the associated panic.⁴⁴ Encouraging patients to use non-verbal signals (like raising a hand) to request a pause can restore a sense of agency.

Creating a calm, controlled environment

Performing the procedure in a calm, quiet, and reassuring environment can help the patient relax. Explaining each

step before it happens can significantly reduce anticipatory anxiety and prevent startling the patient.⁴⁵

Adherence to and personalization of standardized guidelines

Following standardized, evidence-based guidelines ensures that suctioning is performed safely, consistently, and effectively, providing a framework that reduces caregiver uncertainty.⁴⁶

Evidence-based home care protocols

Healthcare organizations must provide caregivers with clear, accessible, and easy-to-understand written and visual protocols that are based on the latest clinical evidence. These protocols reduce ambiguity and help standardize care across different settings.⁴⁷

Regular competency assessments and follow-up

Caregiver skills and confidence should be reassessed regularly, either in-person during clinic visits or via telehealth. These check-ins provide an opportunity for caregivers to ask questions, receive constructive feedback, and have their skills refreshed.⁴⁸

Accessible digital and print resources

Providing a library of resources, such as instructional videos, illustrated pamphlets, and emergency flowcharts, can serve as an invaluable reference for caregivers at home, reinforcing their initial training and providing support when needed.⁴⁹ A personalized care plan that includes the patient's specific suctioning frequency, catheter size, and pressure settings is essential.

CONCLUSION

Tracheostomy suctioning, while a non-negotiable, life-sustaining procedure, is fraught with significant and deeply intertwined psychological and emotional challenges for both patients and their caregivers. Patients grapple with visceral fears of choking, pain, and a profound loss of control, while caregivers are burdened by the immense anxiety of causing harm, managing life-threatening complications, and the sheer emotional weight of their responsibilities. These fears are not merely subjective discomforts; they have tangible clinical implications, directly affecting adherence to essential care, influencing patient outcomes, and eroding caregiver well-being. To address this complex issue, the healthcare community must urgently move beyond a narrow focus on procedural instruction to embrace a more holistic, compassionate, and family-centered model of care. This paradigm shift requires the implementation of robust, simulation-based training programs that build true competence and confidence. It demands the integration of proactive psychological support and routine mental health screening as a standard of care, not an afterthought.

Furthermore, it calls for empowering both patients and caregivers with effective communication tools and coping strategies that restore a sense of agency and partnership. By relentlessly focusing on enhancing patient comfort through gentle, standardized techniques and fostering a confident, prepared, and supported caregiver, we can transform a feared and traumatic procedure into a manageable and safe aspect of home care. Ultimately, a compassionate, supportive, and deeply educational approach is paramount to reducing the pervasive fear surrounding tracheostomy suctioning and ensuring a safer, more humane care journey for our most vulnerable patients and their dedicated families. Future research should focus on the longitudinal efficacy of these multi-modal interventions on patient-reported outcomes and caregiver quality of life.

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