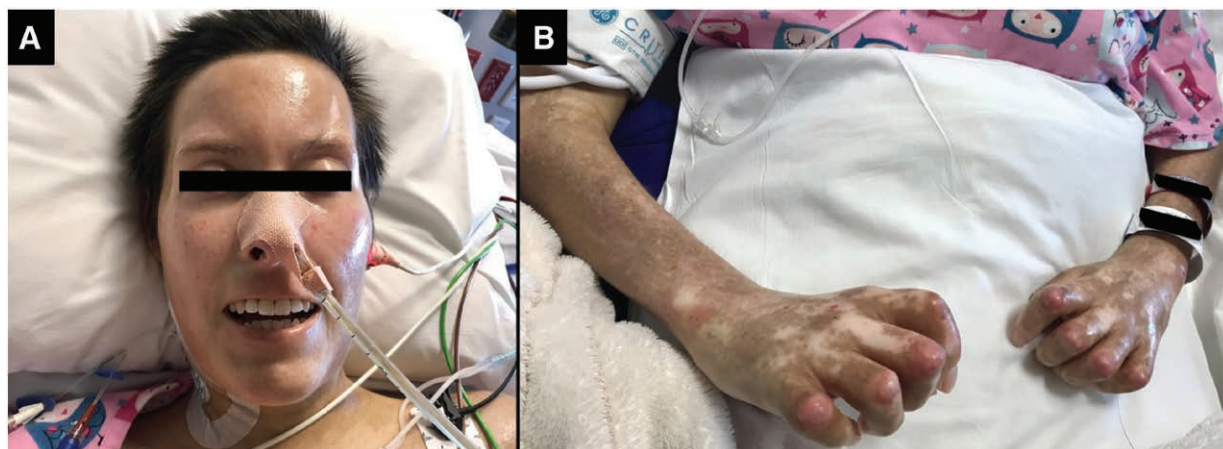


# Oropharynx in Scleroderma

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These photographs show a patient with advanced scleroderma who presented for emergent abdominal surgery. Image *A* demonstrates a maximal oral opening with an interincisor distance of approximately 1 cm. The restricted oral opening necessitated fiberoptic nasotracheal intubation to safely secure the airway. Due to the patient's taut and fibrotic skin, with resulting upper extremity deformity (image *B*), insertion of an internal jugular venous catheter was also required.

Scleroderma is characterized by autoimmune-mediated inflammation, vascular injury, and excessive fibrosis of skin and internal organs.<sup>1</sup> Autoantibodies and inflammatory cascades lead to the obliteration of small arteries and general endothelial injury, resulting in widespread capillary loss and leakage of serum proteins into the interstitial spaces. Tissue edema and lymphatic obstruction progress to severe fibrosis and organ sclerosis.<sup>2</sup>

Anesthetic management of patients with scleroderma can be challenging. The skin becomes fibrotic, and contractures often develop, making vascular access frequently difficult. Reynaud's phenomenon is present in up to 85% of patients.<sup>2</sup> The involvement of perioral soft tissues, especially tightening of the labial commissures along with mandibular resorption and temporomandibular joint involvement, results in significant microstomia.<sup>3</sup> Facemask ventilation and direct laryngoscopy is often difficult, and fiberoptic intubation may be required. Pulmonary involvement manifests as

restrictive lung disease, chronic aspiration pneumonitis, and pulmonary hypertension. Renal dysfunction is secondary to thickened glomerular basement membranes and interlobular arterial hyperplasia and increases the risk of developing the much-feared scleroderma renal crisis.<sup>2</sup> Myocardial fibrosis leads to impaired diastolic function, conduction delays or dysrhythmias, and sclerotic coronary vessels.<sup>1</sup>

## Competing Interests

The authors declare no competing interests.

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