DIFFICULT AIRWAY MANAGEMENT

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AARC Approved for 1 CRCE Credit Hour

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LEARNING OBJECTIVES

SLIDE COLORS

Background
#F5F4EF

Header / titles
#142334

Emphasis
#E29A2D

Body text
#272F36

Secondary text
#495865

01 Identify factors that predict a difficult airway.

02 Compare current devices and techniques for airway management.

03 Select appropriate rescue strategies when initial airway attempts fail.

2

WHAT IS A DIFFICULT AIRWAY?

Difficulty can occur at more than one point in airway management.

1

MASK VENTILATION

Difficulty providing effective ventilation or oxygenation with a facemask.

2

SUPRAGLOTTIC AIRWAY

Difficulty placing or ventilating effectively through a supraglottic airway.

3

LARYNGOSCOPY / INTUBATION

Difficulty visualizing the larynx or successfully placing an endotracheal tube.

4

INVASIVE AIRWAY ACCESS

Difficulty establishing emergency front-of-neck airway access when needed.

The key question is not only "Can I intubate?" — it is "Can I maintain oxygenation throughout the process?"

3

DIFFICULT MASK VENTILATION

Think inadequate ventilation or oxygenation — not a single SpO_2 cutoff.

SIGNS MASK VENTILATION IS INADEQUATE

- **Poor or absent chest rise**
  Little visible movement despite positive-pressure breaths
- **Minimal or absent exhaled CO_2**
  Weak or absent capnography signal when circulation is present
- **Poor air movement**
  Little or no bilateral breath sound / airflow
- **Falling oxygen saturation**
  Especially concerning when the trend continues despite corrective maneuvers

IMMEDIATE RESPONSE

- Reposition the airway
- Optimize the mask seal
- Use two-person technique
- Insert an airway adjunct
- Move to a rescue airway if needed

Don't wait for severe desaturation before deciding that mask ventilation is failing.

4

PREDICTORS OF DIFFICULT MASK VENTILATION

Look for anything that makes it harder to maintain an open airway, create a seal, or move air.

BEARD

Facial hair can prevent an effective mask seal.

EDENTULOUS

Loss of facial structure can make the mask seal difficult.

OBESITY / OSA

Upper-airway soft tissue and reduced respiratory reserve increase risk.

FACIAL TRAUMA

Deformity, swelling, blood, or pain may interfere with positioning and seal.

AIRWAY EDEMA

Burns, anaphylaxis, infection, or trauma can progressively narrow the airway.

LIMITED JAW MOVEMENT

Restricted mandibular movement can make airway opening and positioning difficult.

One predictor may be manageable. Several together should increase your level of concern.

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PREDICTORS OF DIFFICULT INTUBATION

Look for anatomy or pathology that may limit access, positioning, or visualization of the larynx.

SMALL MOUTH OPENING

Limited interincisor distance restricts room for the laryngoscope and tube.

MICROGNATHIA

A small or recessed mandible can make alignment and visualization more difficult.

MACROGLOSSIA

A large tongue can crowd the oropharynx and obstruct the view.

LIMITED NECK MOBILITY

Cervical disease, immobilization, or prior surgery may restrict positioning.

AIRWAY DISTORTION

Tumor, infection, trauma, burns, or edema can alter normal airway anatomy.

ANTERIOR / DIFFICULT VIEW

Anatomic relationships may make glottic visualization and tube delivery challenging.

No single finding predicts every difficult intubation — combine the findings with the clinical situation.

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AIRWAY ASSESSMENT

Use multiple findings to build the airway picture — no single bedside test tells the whole story.

PRACTICAL BEDSIDE ASSESSMENT

- **History:** Previous difficult intubation, airway surgery, radiation, trauma, or disease
- **Mouth & dentition:** Mouth opening, teeth, dentures, tongue size, jaw movement
- **Mallampati:** Estimate oropharyngeal space — useful as one part of the assessment
- **Neck:** Range of motion, short/thick neck, cervical immobilization or deformity
- **Face & airway:** Facial asymmetry, swelling, masses, burns, blood, secretions, or obstruction

THE FOUR D's

DENTITION
Teeth may limit access or complicate laryngoscopy

DISTORTION
Abnormal or altered airway anatomy

DISPROPORTION
Large tongue, small jaw, limited space

DYSMOBILITY
Restricted jaw or cervical movement

The goal of assessment is preparation: choose Plan A, anticipate Plan B, and have rescue equipment immediately available.

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CASE STUDY: HOW DIFFICULT IS THIS AIRWAY?

58-year-old male • 5'10" • 285 lb • BMI 41 • History of obstructive sleep apnea

CLINICAL STATUS

- Increasing respiratory distress
- SpO_2 92% on supplemental oxygen
- Intubation is being considered

AIRWAY FINDINGS

FULL BEARD
Mask seal?

MALLAMPATI IV
Visualization?

LIMITED MOUTH OPENING
Device access?

LIMITED CERVICAL MOBILITY
Positioning?

WHAT CONCERNS YOU MOST ABOUT THIS PATIENT'S AIRWAY?

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CASE STUDY: BEFORE THE FIRST ATTEMPT

Known risks: obesity/OSA • full beard • Mallampati IV • limited mouth opening • limited neck mobility

1 **OPTIMIZE OXYGENATION**

Preoxygenate aggressively and position to maximize oxygen reserve.

2 **OPTIMIZE POSITION**

Use head-elevated/ramped positioning when appropriate.

3 **CHOOSE PLAN A + PLAN B**

Select the first device and decide what comes next if it fails.

4 **PREPARE RESCUE OPTIONS**

Have mask adjuncts, supraglottic airway, and emergency airway equipment ready.

The best time to manage a failed airway is before the first attempt begins.

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DIFFICULT AIRWAY

DEVICES & TECHNIQUES

The goal is not to know every device.
The goal is to choose the right technique — and know when to change it.

PLAN A
Tracheal intubation

PLAN B
Supraglottic airway

PLAN C
Facemask ventilation

PLAN D
Emergency front-of-neck airway

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DIRECT vs. VIDEO LARYNGOSCOPY

Video laryngoscopy has moved from a rescue device toward a first-line intubation tool.

DIRECT LARYNGOSCOPY

- Direct line of sight to the glottis
- Familiar and widely available
- Useful skill that still matters
- View depends heavily on positioning and anatomy

VIDEO LARYNGOSCOPY

- Camera provides an indirect view
- Often improves glottic visualization
- Different blade geometries require different technique
- Current DAS guidance recommends VL whenever possible

Better visualization is valuable — but successful intubation still requires successful tube delivery.

Source: Difficult Airway Society 2025 guidelines (published 2026).

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VIDEO LARYNGOSCOPY: IT'S NOT JUST THE VIEW

A beautiful view of the cords can still produce a failed intubation.

STANDARD GEOMETRY

Technique resembles conventional laryngoscopy.

May allow direct or indirect visualization depending on the device.

HYPERANGULATED

Can provide excellent glottic views without aligning airway axes.

Tube delivery usually requires matching the blade's curve.

TUBE DELIVERY

Use an appropriate stylet, bougie, or flexible bronchoscope with a hyperangulated blade.

Watch the tube — not just the screen.

If the tube won't advance, change something — don't repeatedly force the same trajectory.

Source: Difficult Airway Society 2025 guidelines.

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BOUGIES & INTRODUCERS

A simple adjunct can turn a difficult tube-delivery problem into a successful intubation.

WHEN THEY HELP

- Limited glottic view
- Difficult tube trajectory
- Standard or video laryngoscopy
- When an introducer can be placed more easily than the ETT

KEY TECHNIQUE POINTS

- Advance gently — never force
- Maintain control while the ETT is railroaded
- Recognize resistance and stop
- Reoxygenate and reassess after an unsuccessful attempt

The bougie is an adjunct — not a reason to continue repeated traumatic attempts.

Source: Difficult Airway Society 2025 guidelines.

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SUPRAGLOTTIC AIRWAYS: MORE THAN A BACKUP

When intubation fails, the immediate goal returns to oxygenation.

RESCUE VENTILATION

A second-generation supraglottic airway can restore ventilation and oxygenation after failed intubation.

STOP • THINK • COMMUNICATE

Once oxygenation is restored, reassess the situation before deciding what comes next.

INTUBATION CONDUIT

If tracheal intubation is essential, flexible bronchoscopic intubation through an appropriate SGA may be considered.

Blind intubation through a supraglottic airway is not recommended.

Source: Difficult Airway Society 2025 guidelines.

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FLEXIBLE BRONCHOSCOPY

Flexible bronchoscopy remains a major tool for anticipated difficult-airway management.

STRENGTHS

- Can navigate challenging anatomy
- Useful for awake tracheal intubation
- Can be used through selected supraglottic airways
- Maintains visual control during tube placement

LIMITATIONS

- Requires training and practice
- Secretions can obscure the lens
- Significant blood can make visualization difficult
- Oxygenation must still be actively managed

The best device is the one that fits the airway, the situation, and the operator's skill.

Sources: ASA 2022 difficult-airway guidelines; DAS awake tracheal intubation guidelines.

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AWAKE TRACHEAL INTUBATION

Sometimes the safest difficult airway is the one you secure before inducing apnea.

KEEP BREATHING

Spontaneous ventilation and airway tone are maintained.

→

TOPICALIZE + OXYGENATE

Provide effective airway topical anesthesia and supplemental oxygen.

→

INTUBATE AWAKE

Flexible bronchoscopy or video laryngoscopy may be used.

→

CONFIRM

Visual confirmation plus capnography before induction.

Consider awake intubation when difficult airway management is predicted and losing spontaneous ventilation could create major risk.

Sources: ASA 2022; Difficult Airway Society awake tracheal intubation guidelines.

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AIRWAY EXCHANGE CATHETERS

A difficult airway may become dangerous again when it's time to extubate.

WHY CONSIDER ONE?

In selected difficult-airway patients, an airway exchange catheter can preserve a temporary pathway for reintubation after extubation.

IMPORTANT CAUTIONS

- Use only with appropriate expertise and monitoring
- Secure and monitor position carefully
- Complications can occur with misuse
- Extubation still requires a complete backup plan

Extubation is an airway procedure — plan it with the same respect as intubation.

Source: ASA 2022 difficult-airway guidelines.

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CONFIRMING TRACHEAL INTUBATION

Seeing the tube pass the cords is important. Sustained exhaled CO_2 completes the confirmation.

TWO-POINT CHECK

1 VISUAL CONFIRMATION

See the endotracheal tube pass through the vocal cords or visualize it within the trachea.

2 WAVEFORM CAPNOGRAPHY

Confirm sustained exhaled carbon dioxide with an appropriate waveform.

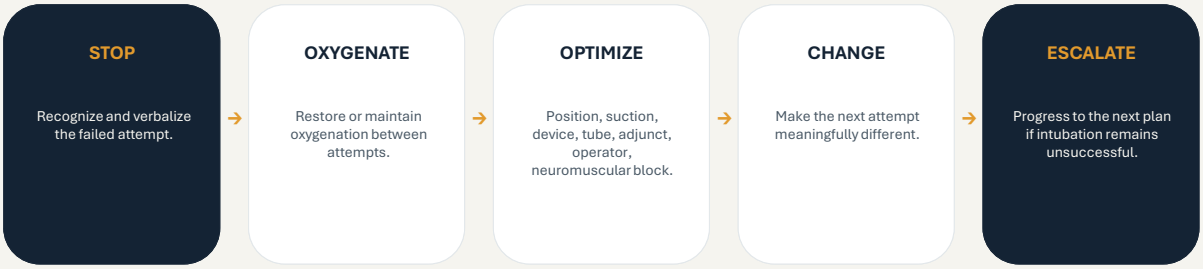
Chest rise, breath sounds, and improving oxygenation are supportive findings, they do not replace capnographic confirmation when capnography is available.

Sources: Difficult Airway Society 2025 guidelines; ASA 2022 difficult-airway guidelines.

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WHEN PLAN A FAILS

Failure should trigger a change in strategy — not automatic repetition.



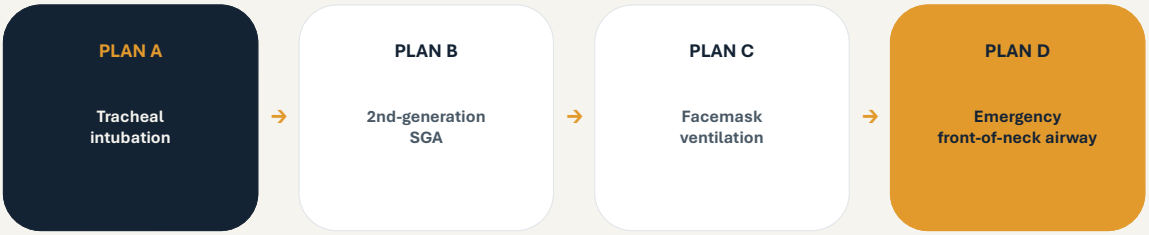
Current DAS guidance limits tracheal intubation attempts to 3 + 1: three attempts, with one final attempt by a more experienced clinician.

Source: Difficult Airway Society 2025 guidelines.

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CANNOT INTUBATE, CANNOT OXYGENATE

When Plans A, B, and C fail and oxygenation cannot be achieved, this is a life-threatening airway emerge



DECLARE THE EMERGENCY • CALL FOR HELP • CONTINUE OXYGEN DELIVERY WHEN POSSIBLE • PROCEED TO EMERGENCY FRONT-OF-NECK ACCESS

Source: Difficult Airway Society 2025 guidelines.

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THE DIFFICULT AIRWAY CART

Organize equipment by what you may need to accomplish — not by brand name.

PLAN A — INTUBATE

Video laryngoscope
Alternate blades
ET tubes + stylets
Bougie / introducer

PLAN B — RESCUE

2nd-generation SGA
Multiple sizes
Lubrication
Flexible bronchoscope access

PLAN C — VENTILATE

Masks
Oral/nasal airways
BVM
Two-person technique

PLAN D — EMERGENCY

Front-of-neck access kit
Scalpel-based equipment
Oxygen source
Suction immediately available

The cart should make progression through the airway plan faster — not create another search problem.

Guideline basis: ASA difficult-airway preparation and equipment recommendations.

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POSITIONING THE DIFFICULT AIRWAY

Positioning can improve preoxygenation, mask ventilation, laryngoscopy — and the time available before de

SNIFFING POSITION

Flex the lower cervical spine while extending at the atlanto-occipital joint when anatomy and cervical status permit.

HEAD-ELEVATED / RAMPED

Especially useful in obesity. Elevate the head and upper torso to improve respiratory mechanics and airway access.

LIMITED C-SPINE MOVEMENT

When neck movement is restricted, optimize what can be changed: bed height, head elevation, device choice, and team ergonomics.

Don't accept the position you found the patient in as the position you have to intubate them in.

Guideline basis: ASA guidance; obesity airway recommendations support ramped/head-up preoxygenation.

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PREOXYGENATION: CREATING A SAFETY MARGIN

Preoxygenation does not make intubation easier — it gives you more time to manage difficulty safely.

SEAL

Use a well-fitting mask and minimize leak.

POSITION

Head-up or ramped when appropriate.

RECRUIT / SUPPORT

Consider CPAP or NIV in patients who need positive pressure to achieve adequate preoxygenation.

CONTINUE OXYGEN

Use nasal oxygen or HFNO when appropriate to continue oxygen delivery during airway management.

Shorter oxygen reserve: obesity • pregnancy • severe hypoxemia • high metabolic demand

Guideline basis: ASA difficult-airway guidance; 2025 obesity airway recommendations.

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TWO-PERSON MASK VENTILATION

When one-person mask ventilation is inadequate, add hands before adding pressure.

PERSON 1 — AIRWAY + SEAL

- Two-handed mask seal
- Jaw thrust / airway positioning
- Oral or nasal airway when appropriate
- Watch for leak and obstruction

PERSON 2 — VENTILATION

- Deliver controlled breaths
- Watch chest rise
- Monitor exhaled CO_2
- Adjust pressure to achieve ventilation without excessive insufflation

Better mask technique often matters more than squeezing the bag harder.

Guideline basis: difficult-airway rescue guidance and obesity airway recommendations.

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SUCTION IS AN AIRWAY DEVICE

Blood, vomit, and secretions can defeat an otherwise excellent airway technique.

BEFORE YOU START

Confirm suction works.

Have appropriate suction immediately within reach — not just somewhere in the room.

WHEN THE VIEW DISAPPEARS

Stop chasing the anatomy through contamination.

Suction aggressively enough to restore a usable airway view.

CHANGE THE PLAN

If contamination repeatedly defeats a camera-dependent technique, reconsider the device and approach.

A video laryngoscope cannot see through blood — and neither can a bronchoscope.

Guideline basis: difficult-airway guidance emphasizes suction availability and optimization of airway conditions.

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CHOOSING THE NEXT DEVICE

Don't ask, "What device should I try next?" Ask, "Why did the last attempt fail?"

POOR VIEW	Reposition • suction • change blade/device • consider another operator
GOOD VIEW — TUBE WON'T PASS	Change tube trajectory • stylet • bougie • tube size or technique
BLOOD / SECRETIONS	Suction first • restore visualization • reconsider a camera-dependent approach
CAN'T VENTILATE	Optimize mask ventilation • airway adjuncts • move to a 2nd-generation SGA
SEVERE DIFFICULTY ANTICIPATED	Consider whether an awake technique is safer than inducing apnea

A different device only helps if it addresses the reason the first attempt failed.

Principle consistent with ASA/DAS difficult-airway strategy: optimize conditions and make subsequent attempts meaningfully different.

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CASE STUDY: THE VIEW DISAPPEARS

32-year-old male • facial trauma after MVC • worsening hypoxemia • emergent intubation

FIRST ATTEMPT

Video laryngoscopy is selected.

Initially, the epiglottis is visible — then blood rapidly pools in the pharynx and coats the camera.

The glottic view is lost.

NOW WHAT?

SpO_2 is falling.

The tube has not been placed.

The airway continues to fill with blood.

Would another video-laryngoscope attempt solve the problem?

WHAT SHOULD CHANGE BEFORE THE NEXT ATTEMPT?

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CASE STUDY: CHANGE WHAT CAUSED THE FAILURE

The next attempt should be different because the reason for failure is now known.

1 ABANDON THE ATTEMPT	If hypoxemia is developing, stop the unsuccessful intubation attempt and prioritize oxygenation.
2 OXYGENATE	Use effective facemask ventilation when possible; escalate to rescue ventilation if needed.
3 SUCTION	Clear blood and secretions aggressively enough to restore a usable airway view.
4 REASSESS	Ask whether video laryngoscopy is still the best approach under the current conditions.
5 CHANGE SOMETHING	Modify the device, technique, adjunct, operator, or approach based on what caused the failure.

Repeated attempts without meaningful change increase trauma while consuming oxygen reserve.

Guideline basis: Difficult Airway Society 2025 — oxygenate, suction, optimize, and make subsequent attempts meaningfully different.

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THE PHYSIOLOGICALLY DIFFICULT AIRWAY

The anatomy may be straightforward — but the patient may not tolerate apnea, induction, or positive-pressure ventilation.

SEVERE HYPOXEMIA

Little oxygen reserve means rapid desaturation during apnea.

HEMODYNAMIC INSTABILITY

Induction and positive pressure may worsen hypotension or precipitate collapse.

SEVERE METABOLIC ACIDOSIS

The patient may depend on very high minute ventilation to compensate.

RIGHT-HEART DYSFUNCTION

Changes in preload, pulmonary vascular resistance, and intrathoracic pressure can be poorly tolerated.

A technically successful intubation can still be physiologically disastrous.

Source: Difficult Airway Society 2025 guidelines — physiologically difficult airway.

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OBESITY: LESS TIME, MORE CHALLENGE

Obesity can increase both airway-management difficulty and the speed of oxygen desaturation.

WHY TIME IS SHORTER

Reduced functional residual capacity plus increased oxygen consumption can shorten safe apnea time.

OPTIMIZE FIRST

- Head-up ≥30° / ramped
- Aggressive preoxygenation
- Consider HFNO
- Ensure an effective mask seal

PLAN RESCUE EARLY

Facemask and SGA ventilation may also be difficult.

Consider early use of a second-generation SGA when mask ventilation is suboptimal.

In obesity, preparation is partly about making the first attempt better — and partly about buying more time.

Sources: DAS 2025; SOBA obesity airway recommendations, Anaesthesia 2025.

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CERVICAL SPINE INJURY / LIMITED MOBILITY

The goal is not "zero movement." The goal is effective airway management while minimizing unnecessary c

EXPECT DIFFICULT POSITIONING

A rigid collar, pain, deformity, arthritis, prior fusion, or suspected instability may prevent normal airway positioning.

OPTIMIZE WHAT YOU CAN

Adjust bed height, head/torso elevation, operator position, suction, and device choice without forcing neck motion.

CHOOSE FOR SUCCESS

Video laryngoscopy may improve visualization when direct line-of-sight positioning is limited, but no technique eliminates cervical movement.

Protect the spine — but don't allow immobilization equipment to prevent oxygenation or lifesaving airway access.

Principle: difficult-airway strategy should integrate anatomy, patient condition, device choice, and operator expertise.

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AIRWAY EDEMA: THE AIRWAY MAY GET WORSE

An airway that is manageable now may become extremely difficult after swelling progresses.

BURNS / INHALATION

Facial or airway burns, soot, hoarseness, progressive swelling.

ANAPHYLAXIS / ANGIOEDEMA

Rapid tongue, pharyngeal, or laryngeal swelling may narrow the airway.

INFECTION

Deep neck infection, epiglottic or supraglottic swelling can distort anatomy.

TRAUMA / SURGERY

Bleeding, hematoma, tissue injury, or postoperative swelling can progress.

The decision is not only "Does this patient need a tube right now?"
It may be "Will this airway still be manageable if we wait?"

Guideline principle: anticipated progression and predicted difficulty should influence airway strategy.

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ASPIRATION RISK / EMERGENCY AIRWAY

A difficult airway plus a full stomach changes the balance between oxygenation, speed, and airway protect

WHO IS AT RISK?

Trauma • GI bleeding • bowel obstruction • vomiting • delayed gastric emptying • non-fasted emergency patients

PREPARE FOR CONTAMINATION

- Suction on and immediately available
- Position when feasible
- Anticipate blood/vomit
- Avoid unnecessary delays

ANTICIPATED DIFFICULTY?

If difficult intubation and significant aspiration risk coexist, an awake approach may be safer in selected patients.

Aspiration risk does not replace the difficult-airway plan — it becomes part of it.

Sources: ASA 2022 difficult-airway decision pathway; SOBA 2025 rapid-sequence guidance.

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THE DIFFICULT AIRWAY ISN'T OVER AFTER INTUBATION

The tube solved today's airway problem. Removing it may recreate the original problem — or reveal a nev

WHAT CHANGED?

Airway edema • surgery • trauma • bleeding • prolonged intubation • reduced reserve

CAN WE REINTUBATE?

Before extubation, ask whether the airway is likely to be difficult again and whether the right people and equipment are immediately available.

IS THE PATIENT READY?

Assess respiratory status, oxygenation, ventilation, mental status, secretion management, and airway patency.

Extubation is not simply removing a tube — it is a planned airway procedure.

Source: ASA difficult-airway extubation recommendations.

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DIFFICULT-AIRWAY EXTUBATION STRATEGY

Have the reintubation plan before you remove the airway you already control.

1 REASSESS	Is extubation appropriate now? Consider airway edema, respiratory reserve, and the consequences of failure.
2 PREPARE	Preoxygenate. Position appropriately. Have experienced help and reintubation equipment immediately available.
3 PLAN REACCESS	In selected patients, consider a staged extubation strategy such as an airway exchange catheter.
4 SUPPORT	Consider post-extubation oxygen support, including HFNO or CPAP when clinically appropriate.
5 MONITOR	Watch closely for obstruction, hypoxemia, increased work of breathing, or the need for early reintubation.

If losing the airway would be catastrophic, extubation deserves the same planning as intubation.

Sources: ASA difficult-airway extubation guidance; SOBA obesity airway recommendations.

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CASE STUDY #3: THE AIRWAY THAT MAY GET WORSE

46-year-old male • enclosed-space house fire • 45 minutes after arrival

CURRENT STATUS

- Awake and answering questions
- SpO_2 96% on supplemental O_2
- RR 24/min
- Mild increased work of breathing
- Hemodynamically stable

AIRWAY FINDINGS

- Facial burns and singed nasal hair
- Soot around the mouth
- Increasing hoarseness
- Progressive facial/oropharyngeal swelling
- Coughing dark secretions

DO YOU SECURE THE AIRWAY NOW — OR WAIT UNTIL HE CLEARLY NEEDS IT?

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CASE STUDY #3: DON'T WAIT FOR THE AIRWAY TO DECLARE ITSELF

Progressive airway findings can change the risk of waiting — even before severe obstruction develops.

TREND, DON'T SNAPSHOT

Increasing hoarseness and swelling matter more than one reassuring SpO_2 value.

ANTICIPATE PROGRESSION

If edema worsens, mask ventilation, laryngoscopy, SGA placement, and front-of-neck access may all become harder.

PREPARE BEFORE ACTION

Experienced airway help, video laryngoscopy, suction, backup SGA, capnography, and emergency front-of-neck equipment should be ready.

CONSIDER AN AWAKE PLAN

If difficulty is predicted and the patient is still cooperative and spontaneously breathing, awake tracheal intubation may preserve a safety margin.

KEY POINT: The safest time to secure a progressively worsening difficult airway may be while it is still manageable.

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AFTER THE DIFFICULT AIRWAY: DON'T LOSE THE INFORMATION

A successful airway today should make the next airway safer.

DOCUMENT

What was difficult?

Which devices and techniques were attempted?

What ultimately worked?

COMMUNICATE

Tell the patient or responsible person when appropriate.

Make the information visible to the next clinical team.

FOLLOW UP

Evaluate for complications from difficult airway management and document relevant findings.

"Difficult airway" is not enough — document the details that will change the next plan.

Source: ASA 2022 difficult-airway guidance — documentation, patient notification, and follow-up.

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HUMAN FACTORS: WHY GOOD AIRWAY PLANS FAIL

Airway failure is not always an equipment problem — sometimes the problem is how the team responds u

TASK FIXATION

Repeating the same unsuccessful approach because attention narrows around intubation.

FAILURE TO DECLARE

Everyone sees the problem, but no one clearly says, "This attempt has failed."

UNCLEAR ROLES

Equipment, suction, ventilation, medications, and rescue tasks become disorganized.

POOR COMMUNICATION

Critical information — falling SpO_2, absent $ETCO_2$, failed ventilation — is not stated clearly.

Use closed-loop communication: state the problem, assign the action, confirm it was heard and completed.

Current difficult-airway guidance emphasizes team preparation, communication, cognitive aids, and human factors.

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THE RESPIRATORY THERAPIST'S ROLE

The RT may not be holding the laryngoscope — but we are often central to whether the airway plan succe

BEFORE

Preoxygenate • position • prepare BVM/adjuncts • check suction • assemble airway equipment

DURING

Assist mask ventilation • provide oxygen • suction • monitor SpO_2 and $ETCO_2$ • prepare the next device

AFTER

Confirm sustained exhaled CO_2 • secure/support the airway • initiate ventilation • reassess gas exchange

SPEAK UP

Clearly communicate failed ventilation, falling saturation, absent $ETCO_2$, or the need to move to rescue.

One of the RT's most important airway skills is recognizing when oxygenation is failing — and saying it out loud.

Guideline themes: oxygenation throughout airway management, capnographic confirmation, and multidisciplinary teamwork.

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DIFFICULT AIRWAY: THE BIG PICTURE

Keep the process simple enough to remember when the room is not.



The airway plan succeeds when the team protects oxygenation while moving deliberately from one strategy to the next.

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FINAL CASE: ANATOMIC + PHYSIOLOGIC DIFFICULTY

67-year-old male • severe pneumonia • BMI 38 • worsening respiratory failure

PHYSIOLOGY

- SpO_2 86% on HFNO 60 L/min, FiO_2 1.0
- RR 38/min
- BP 88/54 mm Hg
- Increasing fatigue
- Severe hypoxemia + hemodynamic instability

AIRWAY

- Short, thick neck
- Limited mouth opening
- Mallampati IV
- Previous note: “difficult intubation”
- Copious secretions

BEFORE INDUCTION: WHAT ARE YOUR THREE BIGGEST PRIORITIES?

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FINAL CASE: WORK THE PLAN

The best airway strategy addresses both the difficult anatomy and the physiology that may collapse during in

1 OPTIMIZE BEFORE INDUCTION

Head-up/ramped position • maximize preoxygenation • suction ready • address hypotension/hemodynamics

2 PLAN A

Use the device and operator most likely to achieve first-attempt success; have tube-delivery adjuncts ready.

3 PLAN B / C

If intubation fails, restore oxygenation with effective mask ventilation and/or a second-generation SGA.

4 PLAN D

If intubation, SGA, and facemask oxygenation all fail, declare CICO and proceed to emergency front-of-neck access.

The endpoint is not "get the tube at any cost." The endpoint is maintain oxygenation while securing the airway safely.

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KEY TAKEAWAYS

1. A difficult airway is more than difficult intubation.
2. Assessment should include both anatomic and physiologic difficulty.
3. Preparation and preoxygenation buy time before the first attempt.
4. **If an attempt fails, identify why and make the next attempt meaningfully different.**
5. **When intubation fails, the priority returns to oxygenation.**
6. Extubation, documentation, and communication are part of difficult-airway management.

Protect oxygenation. Recognize failure. Change the plan.

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Portions of this course were adapted from educational materials originally developed by Arthur Jones, EdD, RRT. The course has been extensively revised and updated to reflect current difficult-airway management practices.

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DIFFICULT AIRWAY

MANAGEMENT

Protect oxygenation.
Recognize failure. Change the plan.

Keith Varnes, RRT, RRT-NPS, RRT-ACCS, AE-C

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The End

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