



INTUBATED PATIENT

POSITION PATIENT
FOR COMFORT

VENTILATOR
SETTINGS



"UNDERSTANDING
RESPIRATORY CARE "

WAS DESIGNED, TO HELP
YOU UNDERSTAND HOW
TO LET THE VENTILATED
PATIENT BE AS CALM AS
THE SCENE TO THE LEFT.

CHAPTER 8 UNDERSTANDING RESPIRATORY CARE

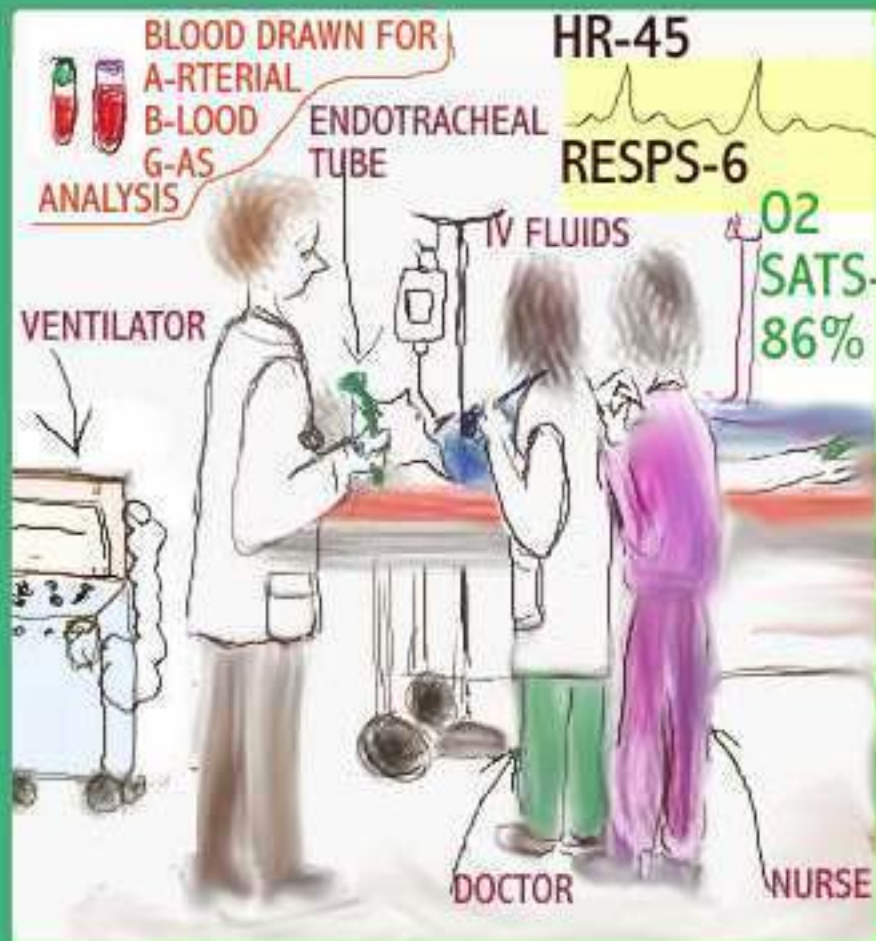


1. Recognize respiratory distress and indications for intubation.
2. Discuss intervention and patient/family education.
3. Relate management and troubleshooting the ventilated patient.
4. Discuss weaning and complications of mechanical ventilation.
5. Discuss tracheostomy intervention and care.

MEDICAL STAFF EXPLAINS AND REASSURES FAMILY MEMBER.

02 SAT-98





JIMMY IS INTUBATED AND VENTILATORY SUPPORT IS INITIATED. THE DOCTOR ORDERS THE SETTINGS.

JIMMY'S ARTERIAL BLOOD GAS ANALYSIS REVEALED HYPOXEMIA (LOW OXYGEN LEVEL IN THE BLOOD).

Jimmy, a 21 year old male was transported to the ER by paramedics. He was recovering from pneumonia at home, when he developed respiratory distress. His respirations =6 and O2 saturation =86%. He is being intubated.

MEDICAL STAFF EXPLAINS AND REASSURES FAMILY MEMBER.


O2 SAT-98%




**FOLLOW -
YOUR INSTITUTION'S POLICY
FOR PATIENT RESTRAINTS.**

PATIENT EDUCATION

A PATIENT WHO HAS NEVER BEEN ON A VENTILATOR MAY BE REALLY FRIGHTENED. THE FAMILY MAY ALSO HAVE DIFFICULTY WITH WHAT THEY SEE.

LINES, TUBES AND ALARMS MAY ALL BE NEW. IT IS THE RESPONSIBILITY OF THE MEDICAL STAFF TO HELP ALLAY THESE FEARS.

HELPFUL HINTS

CARE PLAN SHOULD INCLUDE:

- PATIENT AND FAMILY TEACHING
- RELIEVE ANXIETY
- SEDATION , PAIN MEDS AS ORDERED
- ASSESS RESPIRATORY STATUS AND LUNG SOUNDS, SUCTION PRN
- MONITOR VITAL SIGNS

NOTIFY MD IF BLOOD PRESSURE DROPS!

**TOO MUCH
PRESSURE!**



PEEP IS A VENTILATOR SETTING WHICH IS ORDERED BY THE DOCTOR. IT ALLOWS THE ALVEOLI TO OPEN AND GET MORE OXYGEN AT THE END OF EXPIRATION. IN SOME PATIENTS, IT MAY RESULT IN A DROP IN BLOOD PRESSURE , AS IT INCREASES PRESSURE IN THE THORACIC CAVITY. THIS INTERFERES WITH BLOOD RETURNING TO THE HEART.

RESPIRATORY DISTRESS

PATIENTS IN RESPIRATORY DISTRESS BECOME VERY ANXIOUS. THEY WILL NEED REASSURANCE.



MR.N IS IN CONGESTIVE HEART FAILURE. HE IS SHOWING SIGNS OF RESPIRATORY DISTRESS AND IS VERY ANXIOUS.

FOR MORE INFORMATION ON THIS TOPIC, GO TO [chapter2](#)

CAUSES

INCLUDE, BUT ARE NOT CONFINED TO:

- TRAUMATIC INJURY SUCH AS PNEUMOTHORAX, HEMOTHORAX, BAROTRAUMA
- CONGESTIVE HEART FAILURE
- CARIOGENIC SHOCK
- MYOCARDIAL INFARCTION
- BRAIN INJURIES INVOLVING THE RESPIRATORY CENTER IN THE BRAIN
- ARDS
- NEAR DROWNING
- COPD
- ASTHMA
- PNEUMONIA
- CHRONIC BRONCHITIS

FOR MORE HELPFUL INFORMATION ON ARDS, PLEASE GO TO [CHAPTER-5](#).

INTUBATED PATIENT

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VENTILATOR SETTINGS

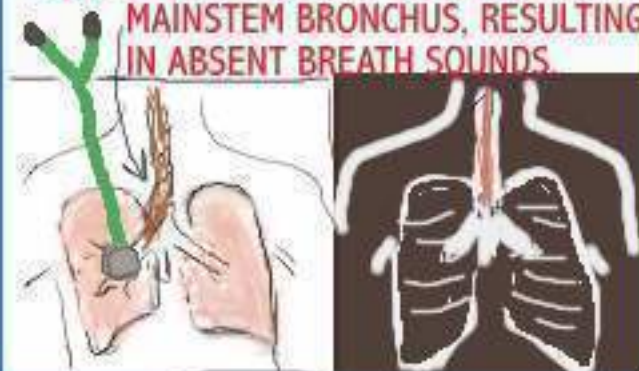


VENTILATOR SETTINGS ARE ORDERED BY THE DOCTOR. TYPICALLY, THE RESPIRATORY THERAPIST OVERSEES THE VENTILATOR.

HELPFUL HINT:

THE NURSE IS ALSO RESPONSIBLE FOR SUCTIONING THE PATIENT AND MAKING SURE THE DOCTOR'S ORDERS ARE CORRECTLY CARRIED OUT. SUCTIONING, CHECKING ALARMS AND TROUBLESHOOTING IS ALSO THE NURSE'S RESPONSIBILITY.

THE ET TUBE MAY SLIP INTO THE RIGHT MAINSTEM BRONCHUS, RESULTING IN ABSENT BREATH SOUNDS.



FOLLOWING INSERTION OF AN ET TUBE (ENDOTRACHEAL TUBE), IT IS IMPORTANT TO CHECK FOR BREATH SOUNDS AND HAVE A CHEST X- RAY DONE. THE DOCTOR WRITES THE ORDERS.

BREATHING TREATMENTS AND STEROIDS MAY ALSO BE ORDERED BY THE DOCTOR.

SAMPLE OF VENTILATOR SETTINGS

FI02 -60%

VT -600

IMV -12

PEEP -5

IT IS IMPORTANT TO DISCUSS THE MEANING OF THESE SETTINGS WITH YOUR INSTITUTION.

AGITATION



SAMPLE
OF AN ET
TUBE

IS
INFLATED

SMALL
CUFF AT
THE
LOWER
END

SUCTION
CATHETER

HOLES AT TIP
OF CATHETER

OF THE ET TUBE. A SYRINGE IS USED
TO PUT IN AIR, TO KEEP TUBE IN PLACE.

HELPFUL HINTS:

A VENTED PATIENT MAY BECOME AGITATED.

- ASSESS THE SITUATION, REASSURE
- CHECK TUBE FOR SECRETIONS OR MUCUS PLUG, SUCTION AIRWAY.
- CHECK BREATH SOUNDS FOR AIR MOVEMENT ON BOTH SIDES. THE ET TUBE MAY BE IN THE RIGHT MAINSTEM BRONCHUS OR THERE MAY BE A PNEUMO-
- THORAX. NOTIFY MD IF NECESSARY.
- MEDICATIONS FOR PAIN OR AGITATION MAY BE NEEDED TO CALM THE PATIENT.

AN ENDOTRACHEAL TUBE COMES IN DIFFERENT SIZES (#8, #7 AND MORE). THERE ARE MARKINGS ALONG THE TUBE. AT THE TIME OF INSERTION, THE LEVEL OF THE TUBE AT THE LIP IS RECORDED. THE INFLATED CUFF HELPS TO HOLD THE TUBE IN PLACE.

NEVER WALK AWAY FROM A PATIENT WHO IS AGITATED OR WHOSE ALARMS ARE ACTIVATED. TROUBLESHOOT PATIENT AND VENTILATOR BEFORE LEAVING.

AN AGITATED PATIENT MAY REMOVE THE ET TUBE (EXTUBATION).

MECHANICAL VENTILATION

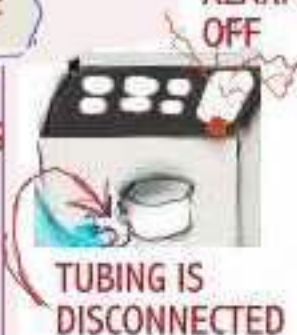
AGITATION



THERE GOES THOSE ALARMS AGAIN. I AM REALLY BUSY RIGHT NOW, I'LL BE BACK IN 10 MINUTES.

NEVER WALK AWAY FROM A PATIENT WHO IS AGITATED OR WHOSE ALARMS ARE ACTIVATED. TROUBLESHOOT PATIENT AND VENTILATOR BEFORE LEAVING. AN AGITATED PATIENT MAY REMOVE THE ET TUBE (EXTUBATION).

ALARM GOES OFF



A VENTED PATIENT SHOULD NOT BE ABLE TO SPEAK!



TRUBLESHOOTING IS VERY IMPORTANT.



WATER IN THE TUBING

PRIOR TO SUCTIONING, PATIENTS SHOULD BE GIVEN EXTRA OXYGEN.



TALK WITH YOUR THERAPIST ABOUT PROPER TECHNIQUES.

AN AMBU BAG SHOULD BE READILY AVAILABLE AT THE BEDSIDE OF A VENTILATED PATIENT. THIS ADJUNCT TO BREATHING CAN BE USED TO PROVIDE OXYGEN IF THERE ARE ANY



NEVER SUCTION WHILE INSERTING THE SUCTION CATHETER!

WEANING

WEANING OF THE PATIENT ON MECHANICAL VENTILATION IS USUALLY ORDERED BY THE DOCTOR. SOME CONSIDERATIONS PRIOR TO WEANING ARE :

- VITAL SIGNS AND O2 SATS.**
- PATIENT PROGRESS, LUNG COMPLIANCE**
- ARTERIAL BLOOD GAS ANALYSIS**
- LARGE AMOUNTS OF SECRETIONS**
- NUTRITIONAL STATUS**

SOME PATIENTS MAY PROGRESS TO WEANING WITHOUT INCIDENT, WHILE OTHERS DO NOT. IF A PATIENT CONTINUES TO FAIL WEANING, A TRACHEOSTOMY IS USUALLY CONSIDERED.

COMPLICATIONS

MECHANICAL VENTILATION IS NOT WITHOUT ITS COMPLICATIONS:

- DAMAGE TO THE VOCAL CORDS FROM THE ET TUBE**
- PNEUMOTHORAX**
- LUNG INFECTIONS**
- HYPOTENSION FROM PEEP**
- SKIN BREAKDOWN AND POSSIBLE DVT FROM IMMOBILITY. SCDS OR TEDS ARE USED TO PREVENT THIS HAPPENING.**
- TURNING Q 2 HRS AND SUCTIONING Q2 AND PRN ARE USUALLY DONE.**
- BRONCHODILATORS TO IMPROVE BREATHING ARE ALSO USED.**

TRACHEOSTOMY



FOLLOW YOUR INSTITUTION'S POLICIES FOR CHANGING OF THE INNER CANNULA.



T-PIECE IS A CONNECTOR USED FOR TRACHEOSTOMY

INNER CANNULA



SAMPLE OF TRACHEOSTOMY WITH CUFF

TRACHEOSTOMY TIE



TRACH CARE KIT



SUCTION CATHETER

A TRACHEOSTOMY IS USUALLY ORDERED FOR A PATIENT WHO REQUIRES LONG-TERM VENTILATORY SUPPORT. AN INCISION IS MADE IN THE THROAT AREA AND A SMALL CANNULA IS INSERTED. THERE ARE DIFFERENT SIZE CANNULAS.

PATIENTS WITH A TRACHEOSTOMY MAY BE TRAINED TO SPEAK IF THEIR RESPIRATORY STATUS ALLOWS. SOME ARE ALSO TAUGHT SELF-SUCTIONING.

A TRACHEOSTOMY MAY BECOME PLUGGED WITH MUCUS. BE VIGILANT ABOUT SUCTIONING TO AVOID AIRWAY OBSTRUCTION.

REMEMBER INFECTION CONTROL!

HOPE YOU HAVE ENJOYED LEARNING!

