

LOS ANGELES UNIFIED SCHOOL DISTRICT
Office of the Chief Medical Director
District Nursing Services

MECHANICAL VENTILATOR

I. GENERAL GUIDELINES

A. PURPOSE

For use by students who have spontaneous but weak breathing or who cannot breathe on their own.

B. GENERAL INFORMATION

Mechanical ventilator is a machine that functions as a substitute for the action of thoracic cage and diaphragm, replacing or assisting normal breathing by providing oxygen to the lungs and removing carbon dioxide. Ventilators used at school are generally small, light and portable and primarily powered from an electrical outlet. Ventilators have back-up power system from internal and external batteries. The built-in internal battery can supply power for 30 minutes to 4 hours depending on the type of ventilator.

1. The need for mechanical ventilator support results from problems in the brain, respiratory muscles and/or lung tissue.
2. STUDENT MUST ATTEND SCHOOL ACCOMPANIED BY A LICENSED NURSING PROVIDER (LNP).
3. PARENT/GUARDIAN MUST ASSUME RESPONSIBILITY FOR THE STUDENT WHEN LICENSED NURSING PROVIDER IS NOT AVAILABLE.
4. LICENSED NURSING PROVIDER MUST ACCOMPANY THE STUDENT WHEN BEING TRANSPORTED BY SCHOOL BUS.
5. Licensed Healthcare Provider must indicate student's degree of ventilator dependency.
6. All required protocols must be authorized by student's parent/guardian and licensed healthcare provider before school attendance begin
7. When supplemental oxygen is ordered for student dependent on a mechanical ventilator, the school nurse must follow protocol for oxygen therapy and BULLETIN 2356.0- Oxygen Use in Schools.
8. Ventilator settings must be checked regularly for accuracy (every 1-2 hours is recommended).
9. Schools with ventilator-dependent student must have a back-up generator on campus and checked during disaster drill by designated school personnel.

10. A manual resuscitation bag (Ambu bag) must be available at all times to provide ventilation if the backup power source fails
11. School nurse is to arrange a child specific ventilator in-service training.

C. PRECAUTIONS

1. Safety cards stating ventilator settings, alarm settings and ventilator operational manual for the specific ventilator must be available and mounted on ventilator.
2. Ventilator is designed to monitor student's respiratory status using an alarm system set according to Licensed Healthcare Provider's orders. **ALARM SHOULD NEVER BE TURNED OFF.**
3. Ventilator should be kept in a shady, cool location away from windows and not exposed to direct sunlight.
4. Avoid plugging other devices into the electrical outlet where the ventilator is plugged.

D. PERSONNEL

1. Licensed Nursing Provider
2. School nurse or school physician

E. EQUIPMENT

1. Parent/guardian is responsible for providing and maintaining all necessary equipment.
2. Licensed Nursing Provider will bring all equipment to school daily in working order and the school nurse will periodically review equipment, (see Mechanical Ventilator Checklist).
3. School nurse will be provided a copy of the operating manual, name, and telephone number of student's respiratory equipment company.
4. Emergency power source must be available at all times and checked during emergency preparedness drills.
5. Manual resuscitation bag with adaptor must be available at all times.

In the event that the Licensed Nursing Provider is temporarily unable to care for the student, the school nurse will do the following procedure:

II. PROCEDURE:

ESSENTIAL STEPS	KEY POINTS AND PRECAUTIONS
1. Assess student for signs of respiratory distress.	
2. If student is not in respiratory distress, notify parent, school administrator and Non Public Agency for replacement of Licensed Nursing Provider. Remain with the student until relief comes.	Signs of respiratory distress: <ol style="list-style-type: none"> 1. Shortness of breath 2. Agitation 3. Blueness or pallor of lips, nail beds 4. Retractions (e.g., pulling in of chest muscles) 5. Confusion 6. Rapid or pounding pulse
3. Check equipment and alarm settings. If alarm is sounding, identify the cause and correct the problem if possible.	Settings must be made according to the licensed healthcare provider's order. See Mechanical Ventilator prescription form. A card with ventilator settings should be mounted to ventilator for easy access. ALARMS SHOULD NEVER BE TURNED OFF!
4. If ventilator alarms, check for: <ol style="list-style-type: none"> a. Secretions accumulating in student's airway. b. Disconnected or loose fitting tubing c. Kink in circuit tubing d. Water in circuit tubing e. Power source or battery problems 	Suction student. Reconnect or tighten circuit tubing fittings. Straighten circuit tubing and remove kink. Drain water from circuit tubing. Connect ventilator to electrical outlet.
5. If unable to locate and correct problem with ventilator, call student's respiratory care company.	

ESSENTIAL STEPS	KEY POINTS AND PRECAUTIONS
6. If student shows signs of distress, disconnect from ventilator and provide manual resuscitation and call 911 emergency services.	Signs of distress are: increased shortness of breath, agitation, blueness or pallor of lips, nail beds, retractions (e.g. pulling in of chest muscles), confusion, rapid or bounding pulse.
7. Record incident and action taken in student's electronic record.	

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Date



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REFERENCES:

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