

Protocol Update 2019

There have been several questions revolving around protocol updates and how they are to be conducted. As many of you are aware there is a protocol submission process in the appendix of the current protocols. This gives each provider in West Virginia a method to change, delete, or add a protocol to the Statewide system. Once completed and submitted the request is reviewed by the WV EMS Advisory Council, submitted for 30 day comment period, then returned to the Medical Policy and Care Committee for review. MPCC may ask for more information, deny the request, request a pilot study, or approve the submission as is.

Protocol revisions that have completed the process throughout the year are processed and released in January of the following year unless deemed an emergency implementation. Between early January and February 14 of each year, providers must attend a protocol update. The purpose of the protocol update is to review **ALL** protocols in their entirety and implement the newly adopted protocols. Providers will be awarded two (2) hours for attending a protocol update. These updates are mandatory annually for recertification and training agencies shall issue a certificate of completion for these courses if they are not entered in continuum. New Protocols then become effected February 15 of each year.

Protocols that have changed in 2019 are as follows: **4214/5214** – ROSC, **4302/5302/6302** - Bronchospasm, **4413/5413/6413** – Pediatric Bronchospasm, **4903** – Rapid Sequence Intubation, **4903** - RSI Algorithm, and the WVOEMS Equipment List.

2019 CHANGES

4214/5214 – ROSC

This protocol was changed to reflect a better interpretation of maintenance infusions as follows:

- N. Consider the administration of **Amiodarone** Infusion or **Lidocaine** infusion if the patient was resuscitated following an episode of VF/VT and is without profound bradycardia or high-grade heart block (2nd degree Type II or 3rd degree or idioventricular rhythm).

Note: *Continue using the anti-arrhythmic medication that was administered during resuscitation.*

- Amiodarone administration is 150 mg in 250 ml NS infused at 100 gtts/min. utilizing a 60 drop set.
- Lidocaine administration is administered 1 g in 250 ml NS titrated at 1 – 4 mg/min.

- O. If hypotension persists after 250 ml IV / IO fluid bolus, administer Dopamine 5 – 20 micrograms/kg/min **per MCP Order.**



4302/5302 – Bronchospasm

This protocol was changed to address Adults ONLY and reflects a more aggressive management of respiratory distress by doubling the dose of albuterol. There is also no requirement to contact medical command for a second dose. The protocol is cleaned up from the previous version and now incorporates the administration of Dexamethasone and Magnesium when there is no relief from combi-vent treatments. Dexamethasone has been added to equipment list and will be a minimal financial impact at approximately \$6.00.

- A. Perform **Initial Treatment / Universal Patient Care Protocol** and follow the proper protocol for medical management based on clinical presentation.
 - B. If patient is in moderate distress and:
 1. Heart rate is < 130:
 2. Administer **Albuterol** 5.0 mg combined with **Ipratropium Bromide (Atrovent®)** 0.5 mg with oxygen 8 - 10 LPM. If Ipratropium Bromide (Atrovent®) is contraindicated, administer Albuterol only.
 3. Reassess vital signs and lung sounds.
 4. If distress is unrelieved and patient appears severe:
 - a. Expedite transport.
 - b. Administer a second dose of **Albuterol** 5.0 mg combined with **Ipratropium Bromide (Atrovent®)** 0.5 mg with oxygen 8 – 10 LPM. If Ipratropium Bromide (Atrovent®) is contraindicated, administer Albuterol only.
- c. If no relief, administer **Dexamethasone** 10 mg IV/IO/PO/IM 
5. If distress is relieved:
 - a. Monitor vital signs and transport.
 - b. Notify **Medical Command**.

C. If patient is in severe distress and:

1. Heart rate is < 130:

a. Treat as outlined in “B” above.

b. If transport time permits, consider administration of **Magnesium Sulfate** 2 grams in 100 ml of Normal Saline IV/IO drip administered over 20 minutes.



c. Apply CPAP with in-line nebulizer if indicated. CPAP may be useful in lowering the work of breathing in severe episodes.

2. Heart rate is > 130:

a. Confirm that patient’s tachycardia appears to be from respiratory distress and not from other causes.

b. Treat as outlined in “B” above.

c. Monitor patient’s symptoms and vital signs closely.

d. If any signs of increasing chest pain or cardiac symptoms develop, stop nebulizer, and treat per appropriate protocol.

e. **Contact Medical Command** for further treatment options.



D. For extreme respiratory distress marked by diminished air movement or bronchospasm refractory to treatment, resulting in questionable delivery of nebulized medication, apnea, or other signs of impending respiratory arrest; administer Epinephrine (1:1,000) 0.3 mg IM.

4413/5413 – Pediatric bronchospasm

This protocol was created to address pediatric patients ONLY. There is more appropriate definition of Minimal, Mild, and Moderate distress as it pertains to pediatrics. Contrary to previous protocols, Ipratropium Bromide is a treatment modality in pediatrics > 1 year of age. This protocol also reflects a more aggressive management of respiratory distress by doubling the dose of albuterol. There is also no requirement to contact medical command for a second dose. The protocol also incorporates the administration of Dexamethasone and Magnesium when there is no relief from albuterol / combi-vent treatments.

Pediatric Bronchospasm is a manifestation of several disease processes. In children, the most common are reactive airway disease (asthma), viral bronchiolitis, pneumonia, bronchopulmonary dysplasia, and foreign body obstructions. Physical examination reveals wheezing with a prolonged expiratory phase of breathing. Cough and dyspnea are often present. Respiratory Distress is categorized as follows:

- **Minimal Distress:** A slight increase in work of breathing and respiratory rate with minimal wheezing or stridor evident.
 - **Moderate Distress:** A considerable increase in work of breathing and respiratory rate with wheezing and/or abnormal breath sounds evident. Nasal flaring and mild intercostal retractions are present.
 - **Severe Distress:** Extreme work of breathing with nasal flaring and intercostal, subcostal, and suprasternal retractions. Additional accessory muscle use (sternocleidomastoid) may be evident. The expiratory phase becomes prolonged and may be silent. Wheezes may be absent as airflow is significantly compromised.
- A. Perform **Initial Treatment / Universal Patient Care Protocol** and follow the proper protocol for medical management based on clinical presentation.
- B. If patient is in moderate distress and:
1. Heart rate is < 180:
 - a. Administer **Albuterol**
 - 5.0 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
 - 2.5 mg with oxygen 8 - 10 LPM for children < 6 years of age.
 - b. Administer **Ipratropium Bromide (Atrovent®)**
(*may be nebulized with the albuterol*)
 - 0.5 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
 - 0.25 mg with oxygen 8 - 10 LPM for children 1 – 6 years of age.
 - **Contraindicated in children <1 year of age.**
 - c. Reassess vital signs and lung sounds.
 2. If distress is unrelieved and patient appears severe:
 - a. Expedite transport.

- b. Administer a second dose of **Albuterol**
 - 5.0 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
 - 2.5 mg with oxygen 8 - 10 LPM for children < 6 years of age.
- c. Administer a second dose of **Ipratropium Bromide (Atrovent®)**
(*may be nebulized with the albuterol*)
 - 0.5 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
 - 0.25 mg with oxygen 8 - 10 LPM for children 1 – 6 years of age.
 - **Contraindicated in children <1 year of age.**

d. Administer **Dexamethasone** IV/IO/PO/IM 0.6 mg/kg to a maximum dose of 10 mg



3. If distress is relieved:
 - a. Monitor vital signs and transport.
 - b. Notify **Medical Command**.

C. If patient is in severe distress and:

1. Heart rate is < 180:
 - a. Administer **Albuterol**
 - 5.0 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
 - 2.5 mg with oxygen 8 - 10 LPM for children < 6 years of age.
 - b. Administer **Ipratropium Bromide(Atrovent®)**
(*may be nebulized with the albuterol*)
 - 0.5 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
 - 0.25 mg with oxygen 8 - 10 LPM for children 1 – 6 years of age.
 - **Contraindicated in children <1 year of age.**

c. Administer **Dexamethasone** IV/IO/PO/IM 0.6 mg/kg to a maximum dose of 10 mg

d. If transport time permits, consider administration of **Magnesium Sulfate** 50 mg/kg IV/IO diluted in 100ml of Normal Saline administered over 1 hour.



2. If heart rate > 180:
 - a. Confirm that patient's tachycardia appears to be from respiratory distress and not from other causes.
 - b. Proceed with treatment as in "B" above.
 - c. Monitor patient's symptoms and vital signs closely.
 - d. If any signs of increasing chest pain or cardiac symptoms develop,

stop nebulizer, and treat per appropriate protocol.

D. **Contact Medical Command** for further treatment options



E. For extreme respiratory distress marked by diminished air movement or bronchospasm refractory to treatment, resulting in questionable delivery of nebulized medication, apnea, or other signs of impending respiratory arrest; administer Epinephrine (1:1,000) 0.15 mg IM.

6302 – Bronchospasm

This protocol was changed to address Adults ONLY and reflects a more aggressive management of respiratory distress by doubling the dose of albuterol.

Bronchospasm may be the manifestation of several disease processes, most commonly asthma, chronic bronchitis, and emphysema (COPD). Physical examination reveals wheezing and prolonged expiratory phase of breathing. Respiratory Distress is categorized as follows:

- **Minimal Distress:** A slight increase in work of breathing with no wheezing or stridor evident.
- **Moderate Distress:** A considerable increase in work of breathing with wheezing and/or abnormal breath sounds evident.
- **Severe Distress:** Extreme work of breathing (retractions) with decreased lung sounds or decreased lung compliance, inability to speak in full sentences, and/or lethargy.

A. Perform **Initial Treatment / Universal Patient Care Protocol** and follow the proper protocol for medical management based on clinical presentation.

B. If heart rate is <130:

1. Administer **Albuterol** 5.0 mg combined with **Ipratropium Bromide (Atrovent®)** 0.5 mg (Combi-Vent / Duo-Neb) with oxygen 8 - 10 LPM. If **Ipratropium Bromide (Atrovent®)** is contraindicated, administer **Albuterol** only.

2. Reassess vital signs and lung sounds.

3. If distress is unrelieved and patient appears severe (tripod, semi-Fowler's):

a. Expedite transport and consider ALS backup.

b. Administer a second dose of **Albuterol** 5.0 mg combined with **Ipratropium Bromide (Atrovent®)** 0.5 mg (Combi-Vent / Duo-Neb) with oxygen 8 - 10 LPM per **Medical Command**. If **Ipratropium Bromide (Atrovent®)** is contraindicated, administer **Albuterol** only.



c. If distress continues and patient is less than 35 years of age and has no history of cardiac disease or hypertension, consider



administration of **Epinephrine** 1:1000, 0.3 mg per **MCP order**.

- a.
4. If distress is relieved:
 - a. Monitor vital signs and transport.
 - b. Notify **Medical Command**.
- C. If patient is in severe distress and heart rate is < 130:
 1. Confirm that patient's tachycardia appears to be from respiratory distress and not from other causes.
 - a. Proceed with treatment as in "B" above.
 - b. Monitor patient's symptoms and vital signs very closely.
 - c. If any signs of increasing chest pain or cardiac symptoms develop, stop nebulizer, and treat per appropriate protocol.
 - d. Apply CPAP with in-line nebulizer if indicated. CPAP may be useful in lowering the work of breathing in severe episodes.
 - e. **Contact Medical Command** for further treatment options. 
 2. If patient heart rate is > 130:
 - a. Confirm that patient's tachycardia appears to be from respiratory distress and not from other causes.
 - b. Treat as outlined in "B" above.
 - c. Monitor patient's symptoms and vital signs closely.
 - d. If any signs of increasing chest pain or cardiac symptoms develop, stop nebulizer, and treat per appropriate protocol.

e. **Contact Medical Command** for further treatment options. 

6413 – Pediatric bronchospasm

This protocol was created to address pediatric patients ONLY. There is more appropriate definition of Minimal, Mild, and Moderate distress as it pertains to pediatrics. Contrary to previous protocols, Ipratropium Bromide is a treatment modality in pediatrics > 1 year of age. This protocol also reflects a more aggressive management of respiratory distress by doubling the dose of albuterol.

Pediatric Bronchospasm is a manifestation of several disease processes. In children,

the most common are reactive airway disease (asthma), viral bronchiolitis, pneumonia, bronchopulmonary dysplasia, and foreign body obstructions. Physical examination reveals wheezing with a prolonged expiratory phase of breathing. Cough and dyspnea are often present. Respiratory Distress is categorized as follows:

- **Minimal Distress:** A slight increase in work of breathing and respiratory rate with minimal wheezing or stridor evident.
- **Moderate Distress:** A considerable increase in work of breathing and respiratory rate with wheezing and/or abnormal breath sounds evident. Nasal flaring and mild intercostal retractions are present.
- **Severe Distress:** Extreme work of breathing with nasal flaring and intercostal, subcostal, and suprasternal retractions. Additional accessory muscle use (sternocleidomastoid) may be evident. The expiratory phase becomes prolonged and may be silent. Wheezes may be absent as airflow is significantly compromised.

D. Perform **Initial Treatment / Universal Patient Care Protocol** and follow the proper protocol for medical management based on clinical presentation.

E. If patient is in moderate distress and:

1. Heart rate is < 180:

f. Administer **Albuterol**

- 5.0 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
- 2.5 mg with oxygen 8 - 10 LPM for children < 6 years of age.

g. Administer **Ipratropium Bromide (Atrovent®)**

(may be nebulized with the albuterol)

- 0.5 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
- 0.25 mg with oxygen 8 - 10 LPM for children 1 – 6 years of age.
- **Contraindicated in children <1 year of age.**

h. Reassess vital signs and lung sounds.

2. If distress is unrelieved and patient appears severe (tripod, semi-Fowler's):

a. Expedite transport and consider ALS backup.

b. Administer a second dose of **Albuterol per MCP Order**

- 5.0 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
- 2.5 mg with oxygen 8 - 10 LPM for children < 6 years of age.

c. Administer a second dose of **Ipratropium Bromide (Atrovent®)**
(may be nebulized with the albuterol) per MCP Order

- 0.5 mg with oxygen 8 - 10 LPM for children 6 – 12 years of age.
- 0.25 mg with oxygen 8 - 10 LPM for children 1 – 6 years of age.
- **Contraindicated in children <1 year of age.**



d. Reassess vital signs and lung sounds.

3. If distress is relieved:
 - a. Monitor vital signs and transport.
 - b. Notify **Medical Command**.
- F. If patient is in severe distress and heart rate is < 180: Treat as in “B” above.
- G. If Heart Rate is > 180:
 1. Confirm that patient’s tachycardia appears to be from respiratory distress and not from other causes.
 2. Proceed with treatment as in “B” above.
 3. Monitor patient’s symptoms and vital signs very closely.
 4. If any signs of increasing chest pain or cardiac symptoms develop, stop nebulizer, and treat per appropriate protocol.

E. **Contact Medical Command** for fur further treatment options.



4903 – Rapid Sequence Intubation

*This protocol was changed to reflect the option to substitute Rocuronium (Zemuron®): 1.0 mg/kg IV/IO. **Due to the protocol change the RSI Algorithm and WVOEMS equipment list has also been updated to show this optional medication.*

- c. Long-term paralytic:
 - i. **Vecuronium (Norcuron®):** 0.1 mg/kg IV/IO

-OR-

Rocuronium (Zemuron®): 1.0 mg/kg IV/IO (*OPTIONAL MEDICATION*)

Note: An agent for long term paralysis **MUST** never be given until endotracheal tube placement is fully confirmed.