

Well-Informed for safe & healthy living

Winter 2014-15

CPR Saves Lives

Cardiopulmonary Resuscitation (CPR) is a true life-saver! There are many reasons why you should be trained to perform this life-saving process. For example, did you know:

- Effective CPR immediately after sudden cardiac arrest can double or triple a victim's chance of survival! Chance of survival decreases 7-10 percent *per minute* if no CPR.
- Failure to act in a cardiac emergency can lead to unnecessary deaths.
- Sadly, less than eight percent of people survive who suffer cardiac arrest in a non-hospital setting.

CPR attempts always should be started immediately, unless a Do Not Resuscitate (DNR) order is in place, and should continue until effective, or until death has been determined by a medical professional.

It is important to note that non-paid support, such as family and friends, can learn the basic CPR techniques by watching a simple one-minute video at www.heart.org/cpr. In addition, practicing the techniques so that they become 'second nature' will put you more at ease when an unanticipated need to perform CPR arises.



HAPPY NEW YEAR!

Except for providers of services specifically noted in O.A.C. 5123:2-2-01 (C)(4), members of a family consortium, each independent provider and each employee, contractor, and employee of a contractor of an agency provider who is engaged in a direct services position, is required to:

- Hold valid American Red Cross or equivalent certification in First Aid.
- Hold valid American Red Cross or equivalent certification in cardiopulmonary resuscitation.

It bears repeating ... unless an individual has a DNR status and their death is expected, immediate intervention gives individuals their best chance of survival. It also is very important that changes in a person's medical condition are communicated as quickly as possible *to all support providers*, and that teams address end-of-life care issues in a timely manner.

(continued on p. 2)

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A quarterly newsletter published by the Ohio Department of Developmental Disabilities MUI Registry Unit. More resources are available online at www.dodd.ohio.gov

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In This Issue...

Cover Story: CPR Saves Lives	1-2
Health & Welfare Tips, Lessons Learned	3
Tracheostomy Cuff Information	4-5
Anticoagulants	6-8
What's New, 2015 MUI Training	8

Previous issues of *Well-Informed* newsletter are at www.dodd.ohio.gov/healthandsafety/Pages/default.aspx

CPR Saves Lives *(continued from cover)*

It is vital that staff are always prepared to immediately provide CPR if there are no medical orders against using it. The reality of life is that changes in a person's condition, and changes in staffing happen -- and often without much warning. So, the best approach is for support providers to *always initiate CPR* unless they know that a DNR status has been given for that person.



Important Tips from the American Heart Association

- Nearly 383,000 out-of-hospital sudden cardiac arrests occur annually, and, 88 percent occur at home.
- Many victims appear healthy with no known heart disease or other risk factors.
- *Sudden cardiac arrest is not the same as a heart attack.* Sudden cardiac arrest occurs when electrical impulses in the heart become rapid or chaotic, which effectively causes the heart to suddenly stop beating.
- A *heart attack* occurs when the blood supply to part of the heart muscle is blocked. A heart attack may cause cardiac arrest.
- The American Heart Association trains more than 12 million people in CPR annually, to equip Americans with the skills they need to perform 'bystander CPR.'
- Emergency contact information, including 9-1-1, ambulance, police, fire, nurse, physician, family, etc., should be posted near the phone for easy access. It should also be clearly noted on any cellphones in use.

It is reported that nearly 70 percent of Americans say that they feel helpless to act during a cardiac emergency because they either do not know how to administer CPR, or their training has significantly lapsed. Don't be afraid -- your actions can only help. If you are providing services at the time, please remember, your actions can save a life and reduce the likelihood that the person experiencing the emergency will suffer long-term damage.



INITIATING CPR

Performing the following actions can substantially improve a person's chance of survival.

CHECK RESPONSIVENESS

- Are you alright?
- Scan chest for breaths

IF INDIVIDUAL IS UNRESPONSIVE

- CALL 911
- GET AED* if available

*Automated External Defibrillator

Defibrillation is a process in which an electronic device gives an electrical shock to the heart. Defibrillation stops ventricular fibrillation by using an electrical shock, and allows the return of a normal heart rhythm. A victim's chance of survival *decreases* by 7 to 10 percent for every minute that passes without defibrillation.

CHECK FOR PULSE (5-10 seconds)

NO PULSE

Start CPR – A continuous cycle of 30 compressions and two breaths: Compress center chest (over sternum) with approximately 100 compressions per minute, pressing down about two inches. Allow chest complete recoil.

PULSE

Rescue breathing – One breath every 5 to 6 seconds, check for pulse every two minutes.

Note: *If you're not trained in CPR, or if you've previously trained in CPR but are not confident in your abilities, then provide hands-only CPR.* That means uninterrupted chest compressions of about 100 a minute until paramedics arrive.

DEFIBRILLATION (if no pulse)

- Check for a 'shockable' rhythm with AED
- Provide shocks as indicated
- CPR immediately after shock

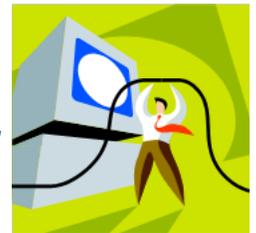
Health & Welfare Tips

Health & Welfare Tips - Internet Safety

Most of us use computers and the internet every day. We use these the computer to look up information needed to do our jobs, find things to do, keep in touch with families and friends, and buy things. Here are a few helpful tips to keep *Well-Informed* readers safe on the internet.

- Unless you know you are on a secure, password-enabled site, never give out your personal information. That includes your full name, address, or phone number; your birth date; your social security number; your credit card number; your bank account information.
- Don't open emails from people you don't know. They may contain viruses which could harm your computer. If you are in doubt at all about a name or subject line that comes up in your email, delete it.
- If you want to buy an item on the internet, only use a secure site.
- Purchase and install a program that protects your computer from a virus. These should be updated periodically to be effective.
- Do not save passwords on your computer.
- Never give out personal medical information over the phone or online, unless using a secure website. Secure websites require passwords or other indentifying information that is only yours.

Be safe online!



Lessons Learned - Be Alert, Respond Quickly

Submitted by Rebecca Kimmet, Area Coordinator, Mercer Residential Services

One of the scariest things for a Direct Support Professional (DSP) to have to take responsibility for is another person's life. In Ohio's developmental disabilities community we are fortunate that so many people are willing to take on that responsibility. DSPs train throughout the year to ensure that they can provide the best care possible for the individuals they support.

Case in point: On January 1, 2015 that training was put to use. Mercer Residential staff Michelle Swander was sitting at the dinner table along with staff member Amber Kempfer. Everyone was eating, and one individual was taking particularly large bites of food. The staff encouraged the individual to slow down and not eat so quickly. This is when Michelle noticed that this person was starting to choke, and was not making any sounds.

*She rushed to him and performed the Heimlich Maneuver.
It was very fortunate that the food was dislodged within seconds!*

The individual was then able to respond, and let staff know that he was OK. Protocol was followed, and he was seen at the local Emergency Room where they deemed him safe. He was able to return home with no further health issues.

This is just one of the many wonderful things DSPs do to ensure the health and welfare of the people we serve. To take responsibility for another person's life is what I consider to be extraordinary. All of the training and vigilant support truly pays off.

Medical Techniques & Information

Tracheostomy Cuff Measurement

by Donna Patterson, RN

Tracheostomy Placement

The indications for tracheostomy can be divided into six main categories, as follows:

- Upper-airway obstruction
- Prevention of aspiration
- Long-term respiratory support
- Suctioning of retained bronchial secretions in patients who are unable to cough and in patients with chronic aspiration
- Elective airway management in head and neck oncological treatment including surgery and/or radiotherapy
- Treatment of patients with severe obstructive sleep apnea, with whom positive-pressure therapy and other modalities have failed

A cuffed tracheostomy tube has an inflatable cuff attached. When the cuff is inflated with air or water, it forms a seal between the windpipe (trachea) and the tracheostomy tube. There are different types of cuffs, and each requires a different type of care and maintenance. Cuffs can be air-filled, water-filled, or pre-filled (Fome cuff).

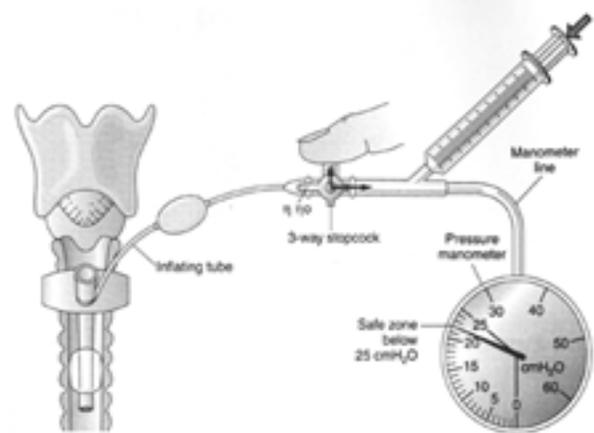
Indications for a cuffed tracheostomy tube include:



- Risk of aspiration
- Newly-formed stoma in adult
- Positive-pressure ventilation
- Bleeding (e.g., in a multiple trauma patient)
- Unstable condition

Tracheostomy Cuff Management

The pressure within the cuff should be checked regularly with a handheld pressure manometer, and maintained ideally between 20 and 25 cm H₂ O. It should never exceed 25 cm H₂ O. If an air leak occurs with the cuff pressure at the maximum recommended, the tracheostomy may have become displaced, and may require changing. Ideally, the



Handheld pressure manometer for measuring tracheostomy cuff pressures.

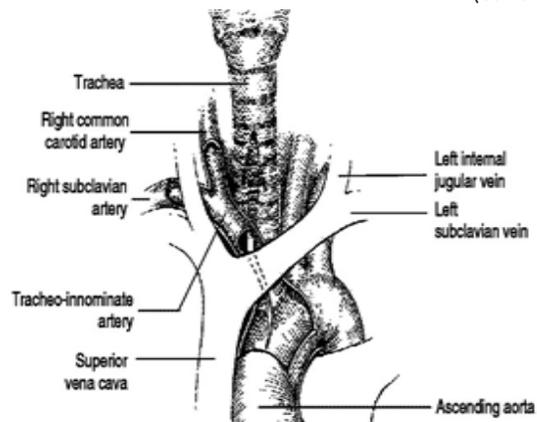
cuff should be deflated as soon as the patient is able to deal with secretions and the risk of aspiration is reduced. Potential complications of an *underinflated* cuff include:

- Failure to ventilate
- Aspiration

Potential complications of an *overinflated* cuff include:

- Tracheal mucosal ischemia causing ulceration and erosion
- Tracheoesophageal fistula
- Tracheoinnominate artery fistula (TIAF)
- Tracheal stenosis
- Difficulty swallowing

(cont. on p. 5)



Tracheo-innominate artery fistula is a rare, yet most fatal complication after tracheostomy. In the absence of immediate diagnosis and surgical management, the mortality rate is very high as the complication can lead to sudden massive tracheal hemorrhage. A believed cause of fistula formation is mucosal necrosis due to pressure caused by the elbow, tip, or cuff of the tracheostomy tube.

Tracheostomy Cuff Information; Anticoagulants

Tracheostomy Cuff Management *(cont. from p. 4)*

There is no recommendation on a preferred method for cuff inflation. The *minimal occlusive volume technique* and the *minimal leak technique* are both acceptable methods.

Inflation Method - Minimal Occlusive Volume

- 1) Inject air into the cuff until no airflow is auscultated over the trachea during the peak inflation pressure of a positive pressure breath
- 2) Record the cuff volume and pressure

Inflation Method - Minimal Leak Technique

- 1) Inject air into the cuff until the air leak around the cuff is eliminated.
- 2) Remove a small amount of air from the cuff until a slight leak occurs (50 to 100mL tidal volume decrease) at peak inflation pressure during a positive pressure breath.
- 3) Record the cuff volume and pressure



More Resources Health & Safety Toolkit

Look for the toolkit artwork at
www.dodd.ohio.gov

Anticoagulants~

by Lisanne Bright, RN, BSN, MA

What you should know

Administering medications to people is a huge responsibility. One must be informed about the medications prescribed and their potential for serious side effects even when administered correctly. Complications associated with having a disability are many, often requiring many medications to be prescribed.

Anticoagulants are prescribed to prevent blood clot formation. They are very effective, often preventing life-threatening sequelae, but are not without serious risk for complications. In this article, these medications will be explored -- their mechanisms of action, methods by which they are monitored, and different medical conditions for which they may be prescribed.

In addition, the serious side effects of hemorrhage will be examined along with medications that can interact

with the anticoagulants to contribute to the increased risk of bleeding. Anticoagulants often are referred to as blood thinners. They do not 'thin' the blood -- they perform by decreasing the coagulability (clotting) of blood.

There are three different types of medications used as anticoagulants; each acting by different mechanisms. These are the anticoagulants which inhibit the clotting Factors' production, anti-platelet drugs, and, thrombin inhibitors. To understand how these medications work, it is important to understand how clotting occurs.

Blood Clots (thrombi)

Blood clots form as a result of bodily injury that causes bleeding. Cells that have been injured /disrupted release signals that mobilize the platelets that are circulating in the blood to come to the site of injury. The platelets have a stickiness to them that allows them to clump together to form a plug at the site.

Platelet clumping triggers Vitamin K-dependent proteins and blood clotting Factors I through XIII to complete the process of blood clot development, stabilization, and ultimately, scab formation. When blood clots occur specifically within the blood vessels, there are serious implications.

Sedentary lifestyles, circulation impairment, and wheelchair confinement are a few conditions that can contribute to the development of blood clots in the lower limbs. Deep Vein Thrombosis (DVT) can occur as a result -- often diagnosed through clinical symptoms, ultrasound, or both. Hospitalization may be required.

DVT typically develops in the deep and larger veins of the thighs and calves. The clots may dissolve on their own, require 'clot busting' drugs to dissolve them, or need to be removed surgically. Some conditions warrant life-long treatment with anticoagulants due to certain disorders/ conditions that contribute to clot formation.

(cont. on p. 6)



Anticoagulants

Anticoagulants~ (cont. from p. 5)

One of the most serious complications of having a DVT is the movement of the clot(s) into the lungs, causing pulmonary embolism. This condition can be life threatening and requires emergency treatment.

When Deep Vein Thrombosis has been diagnosed heparin, intravenously, usually is started. This medication acts quickly, and increases clotting time to prevent additional development of clots or increased size of existing clot(s). After the physician is assured that the patient has stabilized, heparin will slowly be withdrawn, and often replaced with warfarin.

Warfarin is taken daily at the same time, and requires periodic blood tests to ensure that the blood is slower to clot, as indicated by the lab test PT/INR (Prothrombin / International Normalized Ratio).

It is important to note that Warfarin does not cause blood clots to dissolve. Rather, it helps prevent clots from enlarging or recurring.

Warfarin (Coumadin or Jantoven) acts by preventing production of Vitamin K-dependent clotting proteins produced in the liver, including Factors II, VII, IX, and X. As a result, bleeding cessation is prolonged. Due to its effect on Vitamin K, foods, vitamins, supplements, and some botanicals containing this vitamin can diminish the effectiveness of the drug and should be avoided.

Once warfarin is started, it is important that the medication is monitored by periodic labwork ordered by the physician. This medication is frequently adjusted by the physician, who may order an increase, decrease, skipping of doses, or different dosing on alternate days. Frequent monitoring and dose adjustment is common.

The most serious side effect of warfarin is hemorrhage -- most often noted by blood in the urine or stool, bloody nose (epistaxis), bleeding gums, vomiting blood, or petechiae on the skin (see Figure 1). If any of these symptoms appear, it is imperative to notify the physician immediately and seek emergency treatment. The antidote to warfarin toxicity is an injection of Vitamin K.



Figure 1 - Petechiae appears as a rash that is brown, red, or purple, and are flat and even with the skin. They appear most often on the arms, legs, chest or back.

Atrial Fibrillation

Atrial fibrillation is a condition affecting the heart, and is the most common type of abnormal heart rhythm (arrhythmia). The cause originates in the two upper chambers of the heart (the atria). Fibrillation means that the atria contract too rapidly and irregularly. As a result, the blood pools in atria instead of getting pumped fully into the ventricles, or lower chambers of the heart.

This can cause blood clots to form, especially if heart rhythm is very fast. The incidence of atrial fibrillation can occur on a spectrum ranging from 'all the time' to 'episodic.' Depending on the severity of arrhythmia, a physician may prescribe anticoagulants to reduce the chances of stroke caused by clot formation.

Heart attack or myocardial infarction (MI) is when blockage in any of the coronary arteries occurs, cutting off blood supply to the heart muscle. Incidents may be from blood clot formation, or from plaque development in the coronary arteries. Occasionally, a stent may be placed in the affected coronary artery after a heart attack has occurred.

(cont. on p. 7)

More Information

To subscribe to the Ohio Attorney General's Consumer Advocate newsletter, visit

www.OhioAttorneyGeneral.gov

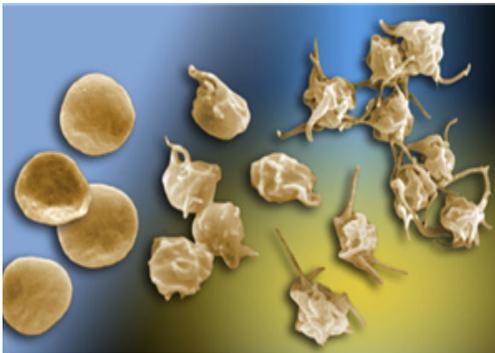
Subscribe to get updates on the Abuser Registry:
join-abs-alert@list.dodd.ohio.gov

Anticoagulants

Anticoagulants~ (cont. from p. 6)

A stent is a small tube placed within the artery to keep the blood vessel open. To prevent clots from forming at the site of the stent, or to help prevent recurring blood clots from forming in the coronary arteries, blood thinning agents may be prescribed.

The second group of medications that decrease the coagulability of the blood are the *anti-platelet medications*. Platelets (thrombocytes) are produced in the bone marrow and circulate within the bloodstream. Their function is to plug any leaks from bleeding that may occur due to external or internal trauma or injury. They are round or oval, and when activated, they become spiny and stick or clump together to form a clot. Platelets are the reason why blood feels sticky (see Figure 2).



*Figure 2-
These platelets
are becoming
activated,
changing from
round / oval to
spiny.*

*(Image courtesy
imgarcade.com)*

Medications that may be prescribed to inhibit the clumping or aggregation action of platelets are aspirin, clopidogrel (Plavix), ticagrelor (Brilinta), and tirofiban (brand name Aggrastat - only available in intravenous form) and dabigatran (Pradaxa). Both clopidogrel and ticagrelor may be prescribed with an additional low-dose aspirin regime for atrial fibrillation and/ or heart attack and stroke prevention.

Hemorrhage is one of the most serious side effects of taking these medications. Since the antiplatelet medications do not inhibit Vitamin K synthesis in the liver like warfarin does, treatment for hemorrhage due to antiplatelet medications is different. It may involve simple monitoring of the current symptoms or hospitalization for administration of fresh frozen plasma, platelet transfusion and/or whole blood transfusion, depending on the severity of the hemorrhage.

The third type of anticoagulants are thrombin inhibitors. These medications interfere with Factor Xa (the lower case a indicating 'activated') and the enzyme prothrombinase which ultimately affects the conversion of prothrombin to thrombin, an essential component to clot formation. Thrombin activates platelet aggregation.

Medications that may be prescribed as thrombin inhibitors are rivaroxaban (Xarelto) and apixaban (Eliquis). Both are used for the treatment of atrial fibrillation, DVT and prevention of DVT after knee or hip surgery. They can cause hemorrhage, and treatment often is based on presenting symptomology. Like antiplatelet medications, treatment is based on severity of bleeding, and hospitalization may be required for administration of fresh frozen plasma, platelet transfusion, or transfusion of whole blood.

Specific Indications for People with Disabilities

People who have intellectual or developmental disabilities (I/DD) may take many medications prescribed for different conditions, and may see many different specialists. Infections, mental health conditions, seizure disorders, and misalignment of joints due to cerebral palsy are examples. All three types of anticoagulants discussed here may interact with other medications increasing the chances for hemorrhage.

It is important to be informed of all the medications that are prescribed, and the various interactions between the medications that can occur.

Warfarin will interact with a multitude of medications commonly prescribed to individuals who have I/DD, increasing the potential for hemorrhage.

(cont. on p. 8)

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Anticoagulants

Anticoagulants~ (cont. from p. 7)

Examples include aspirin, non-steroidal anti-inflammatory (NSAIDs: ibuprofen, naproxen), some thyroid medications, certain antibiotics such as erythromycin and the fluoroquinolone antibiotics (ciprofloxacin, levofloxacin), Selective Serotonin Reuptake Inhibitors (SSRIs) including citalopram (Celexa), escitalopram (Lexapro), fluoxetine (Prozac), fluvoxamine (Luvox), sertraline (Zoloft) and paroxetine (Paxil), the proton pump inhibitor omeprazole (Prilosec) and the antiepileptic Valproic acid (Depakote), just to name a few. This list is not exhaustive!

It is important to inform prescribers of all medications that a person currently is taking. Due to the high number of medications that interact with warfarin, many physicians are opting to prescribe the antiplatelet or thrombin inhibitors as an alternative, if medically appropriate.

Antiplatelets interact with aspirin, ibuprofen, and other NSAIDs and therefore increase bleeding time. Thrombin inhibitors interact with the SSRIs and Serotonin Norepinephrine Reuptake Inhibitors (SNRIs), both of which are used to treat depression. The SNRIs include duloxetine (Cymbalta), venlafaxine (Effexor XR) and Desvenlafaxine (Pristiq). As with warfarin, aspirin and NSAIDs can interact with these medications that can increase bleeding time resulting in hemorrhage.

Anticoagulant medications are essential to prevent life-altering complications associated with DVT, atrial fibrillation, heart attack, and stent placement after a heart attack.

When administering these medications, it is imperative to know their side effects and potential drug interactions, and to be vigilant for any signs of bleeding. Pharmacists can assist by cross-checking medications for drug interactions that are prescribed to individuals who are taking anticoagulants. As advocates for the individuals served, bringing a current medication list to all physician appointments will help facilitate appropriate care for persons taking these medications.

Technical references for this article available on request.



What's New?

2015 MUI Training Schedule

The first half of this year's Major Unusual Incident Unit (MUI) Training schedule, along with registration information, now is available online at the MUI Training page.* Based on feedback from DODD agency partners, the MUI Unit has expanded the number of health and welfare webinars offered, and added new training topics including new webinar series' on Choking, and Preventing Falls.

These programs are presented by experts in the field, and highlight multiple aspects of choking and falling that specifically impact people with developmental disabilities. In addition, the 2015 Training Schedule includes basic MUI Rule training, Unusual Incident investigations, and other often-requested topics. Contact the MUI Unit at 614-995-3810 with any questions, or with suggestions for future training topics.

*To register for Health and Safety trainings, use this link:

www.planetreg.com/E115103240130929



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