Duke University Health System

Volume 7, Issue 2

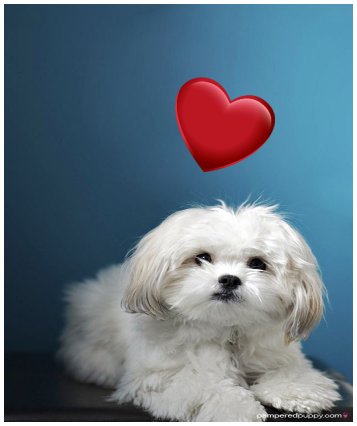
February 2015

RCS News and Views

INSIDE THIS ISSUE:

Happy Valentines' Day All

May you wake up on the 14th and Smile!



Veletri

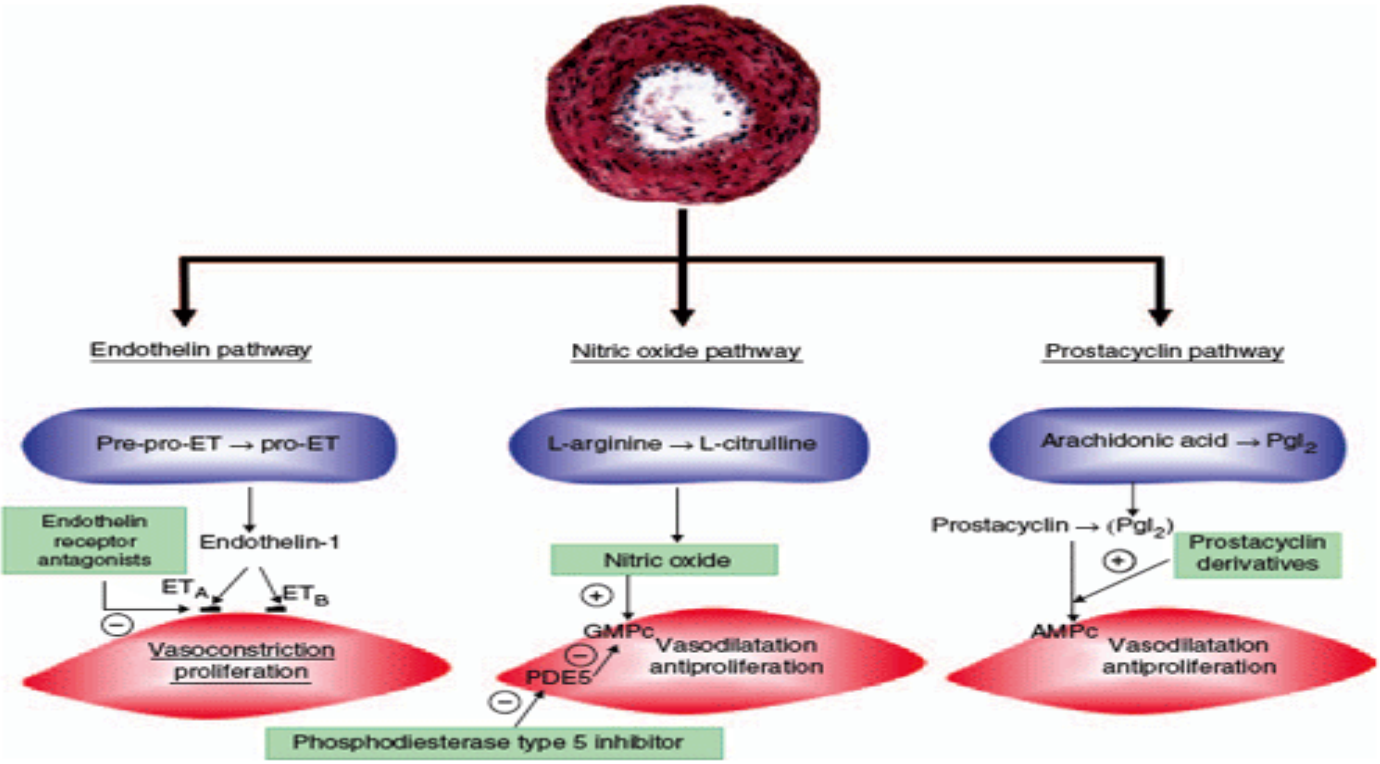
Pulmonary arterial hypertension (PAH) is a significant problem in patients undergoing cardiac surgery, heart or lung transplantation. These patients may present with pre-existing elevated pulmonary artery pressures or acutely develop elevated pressures both during and after their procedures. Subtle increases in pulmonary pressures can be particularly detrimental in critically ill patients with preexisting PAH, leading to sudden right ventricular failure, cardiogenic shock, and death. The causes of these acute elevations in pulmonary artery pressures are multifactorial and can include hypoxia, hypercarbia, acidosis, anesthesia, and hypervolemia. Furthermore, cardiopulmonary bypass (CPB) can also lead to PAH.

To optimally treat PAH. the ideal vasodilator would be cost-effective, safe, and selective to the pulmonary vasculature. Current available therapies target the three major pathways that are identified in PAH: prostacyclin, endothelin-1, and nitric oxide. Nine medications have been approved by the United States Food and Drug Administration (FDA) for the treatment of PAH and include: prostacyclins (epoprostenol, treprostinil, iloprost), endothelin receptor antagonists (bosentan, ambrisentan, macitentan), phosphodiesterase inhibitors (tadalafil, sildenafil), and a guanylate cyclase stimulator (riociguat).

Inhaled Nitric Oxide (iNO) selectively reduces pulmonary pressures without systemic hypotension, but is not FDA approved for this use. Epoprostenol, a prostacyclin, was the first FDA-approved therapy for the treatment of PAH. Also referred to as prostaglandin I2 or prostacyclin, it has vasodilatory, antiinflammatory, antiproliferative, and antithrombotic properties. However, intravenous administration is not selective and specific to the pulmonary circulation and may result in systemic hypotension. These systemic effects have not been observed when delivered by inhalation .

Continued next page

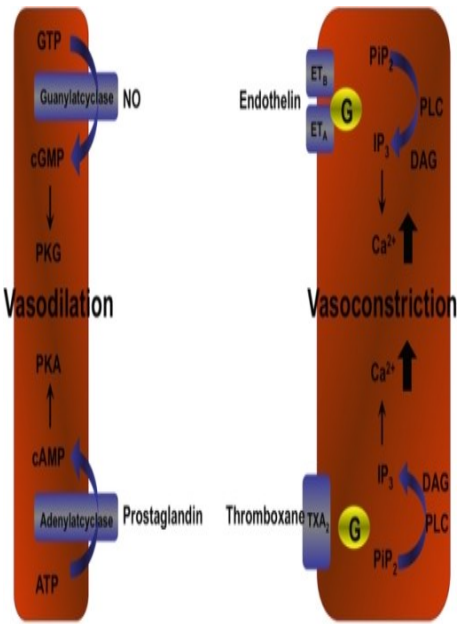
VELETRI CONTINUED



Per published literature, iNO and inhaled epoprostenol (iEPO) have shown comparable efficacy and safety. The advantages of iEPO versus iNO include a better side effect profile and less expensive. iNO has been reported to be 4.5–17 times more costly than iEPO. iEPO is an alternative therapy to iNO and is available as two formulations, Flolan® and Veletri®. Veletri offers the advantage of 24-hour room temperature stability once prepared for administration.

How is this?

Well, the endothelial cells lining the arterioles and small arteries synthesize several substances that affect the degree of relaxation or contraction of the arterial walls. This results in the raising or lowering of the arterial resistance to flow thus causing a change in the arterial pressures. In the above figure, we see the three pathways for muscle control that we mentioned before; endothelin, nitric oxide, and prostacyclin. Introduction of a prostacyclin (epoprostenol) results in an increase in cAMP resulting in relaxation of the vessel musculature. Introduction of NO results in an increase in cGMP and produces relaxation as well. Two different pathways with the similar effect. This is illustrated in the figure. to the right. Stay tuned for more info on this exciting therapy!



Welcome!

Meron and Leo,

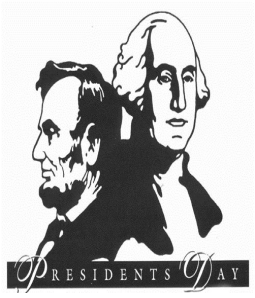
Thank you for coming down and joining Duke Respiratory Care Services. Your talents, skills, personality, and enthusiasm will be well received by the Adult Day Team. May your careers here shine!

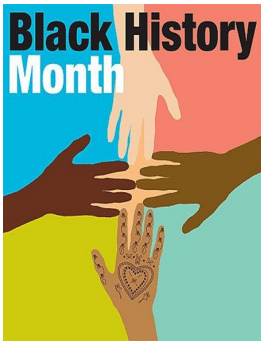
Meron Geda

Leo Agbo

Teamwork: ***We have to depend on each other and work well together with mutual respect to achieve common goals***

- Willingly shares expertise and information with others to improve patient care, unit or departmental performance without compromising individual responsibilities
- Celebrates the accomplishments of others in making a difference in the lives of patients and the success of the organization
- Takes ownership of decisions made by specific patient care or project teams, and team leaders, and the individual role needed to support them
- Manages multiple demands while maintaining quality and courtesy; acknowledges and resolves patient or visitor issues
- Creates an environment that fosters teamwork by effectively communicating, recognizing individual and team success, and managing performance
- When you are not busy...please….call a neighbor or just visit!

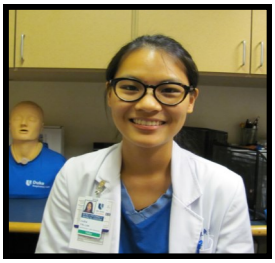




Dear New Friends,

Thank you for travelling from so far to share with us your growth in Respiratory Care. Your presence is special and helps us grow too.

Pei-Chi



Yin-Lun

You-Lan, Huang-Tzu

Hsing-Hua

AARC Updates !!!!!!

I will make this one easy, just click the link below. The AARC has a whole new beautiful web design.

http://www.aarc.org/

February Dates to Remember

RT Technology Meeting

Under Construction, stay tuned for details

Clinical Practice Council

10-11:00am February 12th RCS Conference Rm

Department Meeting

5:30-6:45pm February 26th Rm 2001

RCS Informatics Committee

4:00-5:00pm February 26th RCS conference Rm

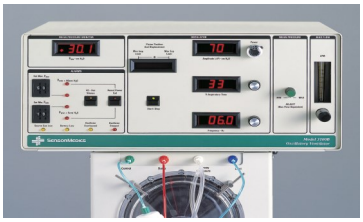
Notes from Ricky Bowen...equipment maintenance

Some maintenance reminders for the 3100s and the Nitrics.

1. **Do Not** clean the piston other than a light wipe with a dry cloth. If you feel it needs more attention then write a note as to why and take it to the 7th floor equipment room for me. All of our cleaners in the clinical areas cause the rubber part of the piston to dry out, crack and fail. There is no routine for cleaning this area as it does not come in direct contact with patient flow.

2. The green, red and blue pressure lines are **NOT** disposable. They are separated from the patient gas flow by the diaphragm caps.

3. When using nebulizers while the patient is on nitric we need to use the disc filter between the sample lines and nitric machine sampling port. When the sampling block becomes occluded the device must be sent back to Ikaria.



HAPPY BIRTHDAY

Tom Edmonds 4th

Stephen Hepditch 28th

Cheryl Yetsko 7th

Desiree Letourneau 7th

Randy Stallings 19th

Stephen Morgan 22nd

Teresa Reeves 11th

Bruce Roberts 16th

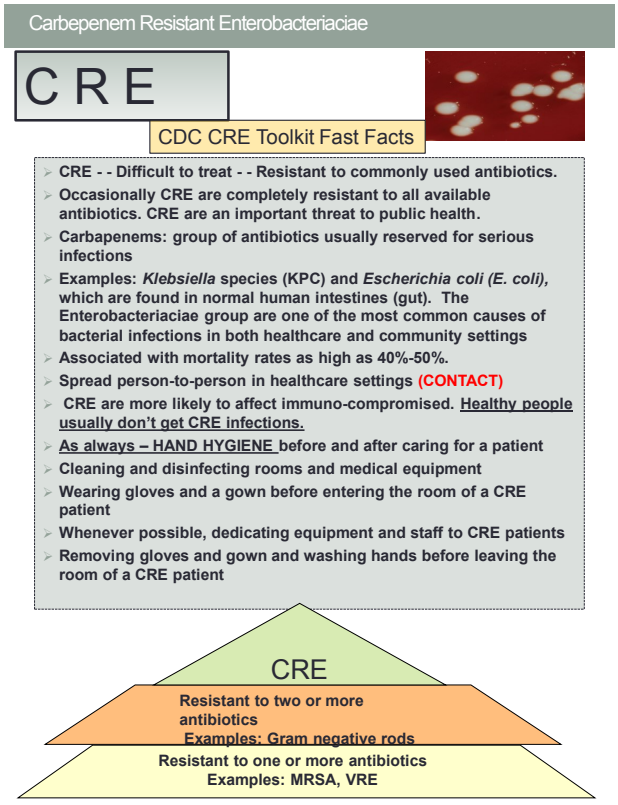
Pete McGuinness 22nd

PPS Updates….

As many of you know its PPS time. Over the next few weeks your supervisors will be completing your performance review. Part of the performance review is your contributions to the department. To make sure we get all of your contributions on the performance review we ask that you log into the PPS system and add comments for each of the items, especially if you feel as though you exceed expectations in that category. There is a second option to provide your self evaluation. A link to a form has been placed on the RCS Staff website called Self Evaluation. If you would prefer to utilize this form that is fine. The objective is that you provide us with any rationale for exceeds, and help us with areas you feel you could use support. Please help us by providing information on how you feel you performed over the past 6 months.

In addition to the self evaluation form we wanted to add a formal process to apply for advancement within the department. If you are an RCP who feels as though you should be promoted please complete the Advancement Application on the staff website. This formalizes the process and allows us to review the information and consider you for promotion. This process will also be used with ECMO Specialist classes moving forward as part of the class planning process. We will ask that all interested parties apply prior to the class and we will review those applications as part of the decision process for the class participants.

If you have thoughts about ways in which we can improve communications and the process of self evaluation or advancement within the department please pass it along. Thanks , Lee



Adult Day Shift Schedule

Be it known to all parties that this affects, Anthony Asciutto is your schedule point. Please forward all that kind of stuff if this is your team to this wonderful and enthusiastic man! Thank you…….

Know your Meds

Or in other words, knowing the trade name does not mean you know what you are delivering. Please use your resources to know the components of the agents you work with. Who knows, a pharmacist or provider may ask you what is the best substitution for a med ordered that is not on formulary.

Adventures in Charting

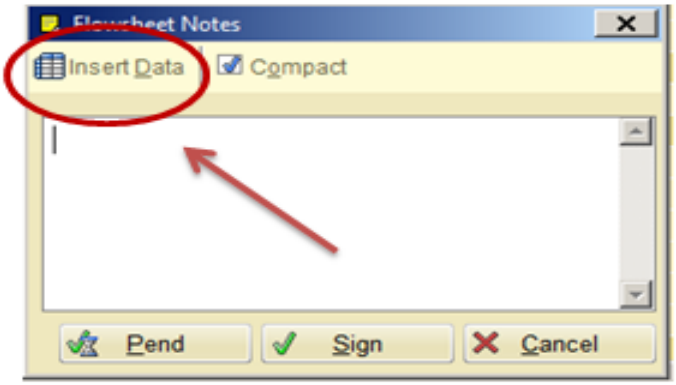
by The Informatics Committee

Hello you fabulous flock of therapists. I hope you'll take a few minutes to read a few reminders about charting intubations and extubations in Epic.

There have been incidents where a patient is placed on a ventilator but information from the vent enters into another patient's chart. This happens when the vent is not dissociated from the previous patient. Yes, there is a lot to chart when a patient is extubated and yes we are trying to streamline this process. We understand your frustration, but please try to ensure accurate charting by dissociating the vent from the patient when you discontinue the vent.

Here is something that is especially important on night shift-vent charges are for 24 hours from midnight to midnight. This means that if a patient is extubated after midnight, but before shift change, the patient should be charged a subsequent vent day. For example, if a patient rolls back from the OR at 9 PM and is placed on the vent, an initial vent day is charged with the first vent check. If the patient is then extubated at 3 AM, they should be charged for a subsequent day.

Last, if you are the person intubating or extubating a patient, you should be entering a note in the chart. The good news is that this is pretty easy and it provides easy to find information if the patient needs to be reintubated later. After you have entered and filed the intubation/extubation information in the RCP Assessment tab, click the drop down menu for that column again and choose new note. A window will pop up, in the upper left hand corner of that window click "Insert Data" to enter the data from that column; you can then free text any additional information that you would like to add.



Thank you for taking the time to read this month's edition of Adventures in Charting. The Informatics Committee is constantly working to improve how we chart and we welcome suggestions. Email or chat with your local Informatics Committee representative or drop by for a monthly meeting in Hill Street at 1630 before the department meetings.