Health Care Visions News
From The Cardiovascular Specialists

1ST QUARTER 2006

Diagnostic and Interventional Catheterization Services Implementation

Marsha Knapik

After careful planning, cardiac catheterization services at Western Plains Medical Complex (WPMC) in Dodge City, Kansas were implemented on a "fast track" and have exceeded volume expectations. The feasibility study for advanced cardiac services completed by Health Care Visions, Ltd. in 2004 clearly indicated the need for those services. A critical element was the recruitment of an experienced interventional cardiologist which proved a daunting task for this rural hospital. Once Dr. Muhammad Khan was on staff, cardiac catheterization services were implemented within three months. The first diagnostic catheterization was performed on October 13, 2005 and the first percutaneous coronary intervention (PCI) was performed only two weeks later. Within the first month of operations Dr. Kahan and the cardiac catheterization staff performed 68 diagnostic catheterizations, four elective PCI's, one emergency (STEMI) PCI and 10 peripheral interventions.

Western Plains Medical Complex

Debbie Bauer, RN, MSN, Chief Nursing Officer championed the project. She led the program implementation team (composed of hospital leadership and staff) to work quickly to put a quality program in place. A mobile cardiac catheterization laboratory helped expedite the implementation process. The lab is located adjacent to the emergency department. A three bed pre/post catheterization patient holding area was opened near the critical care unit. Acquisition of capital equipment such as hemodynamic monitoring and imaging was expedited. All other areas of program development needed to be accelerated to meet the very aggressive timeline. This included supply selection, charge description master development, documentation forms, policy and procedure development, quality assurance plan development, as well as, staff education and training. The flurry of planning and activities culminated in the completion of the dry run on October 11th and 12th.

Two experienced cardiovascular technicians (CVT's) were hired for the program. Experienced critical care staff members at Western Plains Medical Center were given the opportunity for the other open positions in the lab. Three experienced RNs transferred into these positions. With classroom education and workshops provided by HCV, as well as off-site clinical training, the staff was quick to embrace their new roles. The staff also took on additional responsibilities; each was assigned to work on an area of program implementation. They finalized documents (policies/procedures), quality assurance data tracking, inventory management, point of care testing education and QA, as well as pre/post holding area patient care routine development.

To communicate the implementation progress and involve everyone in this project, WPMC posted a timeline at the cafeteria entrance. This was updated when

activities and milestone events were accomplished. The hospital staff, patients and family members celebrated progress with the implementation team.

The hospital's ability to offer advanced cardiac services including diagnostic catheterization, elective/emergency PCI and peripheral interventions responds to a previously unmet cardiac care need for that population. Dodge City's rural location and seasonal inclement weather prohibited the citizen's access to cardiac care in a timely manner. Until these services were available at WPMC patients had to travel more than 100 miles to the nearest facility. Patients can now be seen and treated at Western Plains Medical Complex and only need to be transferred for cardiac surgical services. A permanent cardiac catheterization laboratory is in the planning stages and should be completed in 2006.

Message From The President

Barb Sallo

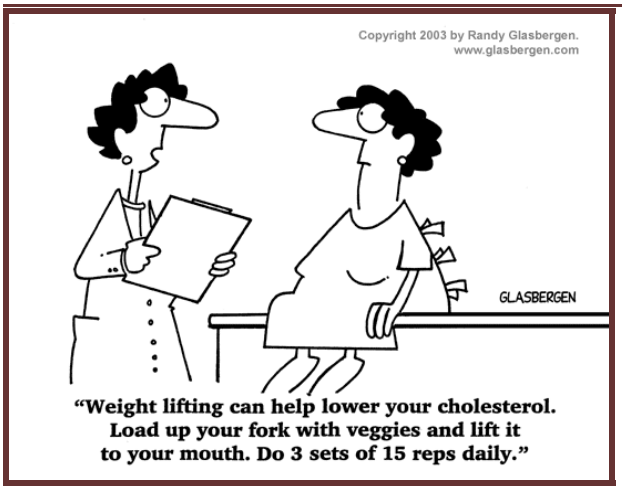
It's that time of year to make a fresh start, so I've put together a "top ten" list of potential resolutions for Cardiovascular Services for thought and consideration.

NEW YEAR'S RESOLUTIONS FOR CARDIOVASCULAR SERVICES

1. ***Patient Focused Services***: The first months of the year present the perfect opportunity to say "Happy New Year!" to your customers. Using open-ended questions, call, e-mail, or even just chat with some of your patients about what they like and what they would change about your services.
2. ***Physician Relations***: Establish a regularly-scheduled meeting calendar with all the physicians who are involved with cardiovascular services. Do not forget the key primary care/family practice/internal medicine doctors who refer patients.
3. ***Patient Flow***: Do a "mystery shopper" experiment and track the patient's door to door process to identify opportunities for improvement.
4. ***Revenue Cycle and Cost Analysis***: Develop a process that monitors and reviews case, provider and patient costs. Dust off your tools for analyzing the revenue cycle process and check for new cob webs.
5. ***Information and Technology***: Assess what is currently in place, what will make your program "stand out in a crowd" and don't forget the pesky cost/benefit analysis. Build a wish list.
6. ***Referral Process***: How easy is it for a physician referral to occur? With the ever increasing work burden on physician practices—a one call referral number makes great sense and they will love it.
7. ***CV Program Organization***: CV service line management may be "out" but shouldn't there be a virtual one?
8. ***Network More***: How do you know you are the "best" if you don't visit other CV programs? Make a trip, make new friends and everybody wins.
9. ***Find Motivation and Train to be Great***: Remember it takes a team to care for a patient. Give your team the resources to develop their skills and knowledge to achieve greatness and don't forget to recognize that greatness.
10. ***Set a Heart Healthy Example***: Live the life style and lose those extra pounds, eat healthy, start that exercise program and get a check up!

Borrow some resolutions from this list or make your own and "Pick and Stick." Perhaps the most important key to success is to choose a couple of items and doggedly stick to them. Work to get everyone to buy in to the resolutions by posting them on the wall and talking about them.

Happy New Year!



Health Care Visions'
next audio conference
"Latest Trends in CV Services"
will be held
Thursday January 26, 2006
3:00 pm Eastern Time

Join us for a free
1 hour seminar

To register e-mail:
hcv@hcvconsult.com

Could Your Heart Be The Blame For Your Migraine?

Cyndi Havrilak

Recent research indicates that there is a link between a fairly common heart defect and migraine headaches. A patent foramen ovale (PFO) in the past was considered to be a benign heart defect, but recently has become the focus of multiple research trials linking it to strokes and migraines. A patent foramen ovale is present during fetal circulation, since the mother supplies oxygenated blood to the baby, but usually after birth this small opening covered by a flap between the heart's right and left atrium fuses and forms the solid wall known as the septum. After birth, the right ventricle pumps blood through the lungs where it is oxygenated, filtrated and returned to the left atrium. If the flap between the atria does not fuse, it can act like a valve opening at times to allow shunting of unfiltered and unoxygenated venous blood from the right atrium into the left atrium and into arterial circulation and the brain. Evidence indicates that this right to left shunt may contribute to cryptogenic (unknown cause) strokes, decompression illness in divers and migraines.

Literature suggests that patent foramen ovale occurs in about 25% of the population. A transthoracic echocardiogram will diagnosis the presence of a PFO and determines if a right to left shunt is present. Closure of a PFO can be provided for patients who have experienced a cryptogenic stroke or stroke symptoms and divers who experience the decompression illness referred to as "the bends". Patients who have had their PFO closed and previously suffered from migraines, reported that their migraines either stopped or improved. The associated link between closure of PFO and reduction of migraines has spurred several research studies. The studies are listed as retrospective and have a small enrollment, the largest enrolling 215 participants. These studies are significant since they all noted a reduction or complete suppression of migraine occurrences.

The findings support the need for larger clinical trials to confirm if there is an association between a PFO and migraines. The table below lists the current trials researching the relationship between migraines and closure of PFO.

Both of these clinical trials will be conducted over a one year period. If the trials prove that closure of PFO results in significant improvement in patients' migraines, anticipated FDA approval of treatment is expected in 2008.

Closure of a PFO can be accomplished through a minimally invasive procedure in the cardiac catheterization laboratory. Multiple medical vendors provide catheter based devices to complete the closure. These devices are being used for stroke patients and divers with documented success rates nearing 95%. These devices are made up of a sheath, containing two discs that are deployed through the PFO, leaving one along the wall of the opening in the left atrium and then the second along the wall of the opening in the right atrium. Tissue growth over the discs permanently seals the PFO. The procedure takes about 60 minutes to complete and the patient is usually discharged the next day.

If these clinical trials prove PFO closure to be a viable treatment option for individuals that suffer from migraine headaches, it may result in a significant volume for the cardiac catheterization laboratory. The prevalence of migraine varies with age increasing from age 12 to age 40 and then falling off. Migraines are more common in females occurring more frequently during their menstruation years. In 1999, it was estimated the 28 million individuals in the US experience migraines and disabling migraines. This prevalence has the potential to favorably impact the procedure volumes within the cardiac catheterization lab and warrants diligent review of the clinical trials' progress.

[1]The Advisory Board Company, Cardiovascular Roundtable 2005
[2]Windecker S., "Closing a Common Heart Defect Improves Migraine", ESC Congress 2003
[3]Lipton, Richard; Stewart, Walter, et al. " Migraine's Impact Today" Postgraduate Medine online, Vol 109/No 1/ January 2001

Trial Name	Company	Enrollment	Design
MIST (Migraine Intervention with STARFlex Technology)	Supported by grant from NMT Medical Inc.	Currently under way in the UK.	Two-arm trial with patients randomized to two groups: one will have their PFO closed and other control arm will not have the procedure to close their PFO. They will be offered PFO closure at end of trial if the trial results prove positive.
ESCAPE (Effect of Septal Closure of Atrial PFO on Events of Migraine with Premere™ migraine trial)	St. Jude Medical	Received conditional approval from the FDA to begin enrollment 8/05.	Two-arm multi-center trial. Patients are randomized to undergo PFO closure procedure or medical management. Follow-up period is for one year.

Surgical Treatment for Atrial Fibrillation

Rose Czarnecki

Atrial fibrillation is widely known as the most common sustained cardiac arrhythmia. According to the American Heart Association atrial fibrillation affects about 2.2 million Americans. Atrial fibrillation is estimated to be responsible for over 70,000 strokes each year. The likelihood of developing atrial fibrillation increases with age. Three to five percent of people over 65 have atrial fibrillation. Depending on the patient's age, the etiology of their arrhythmia and how they are tolerating it drives the decision as to which treatment option is appropriate for them. There are many treatment choices available to patients with atrial fibrillation; one of the options gaining popularity is surgical ablation.

The original surgical procedure for the treatment of atrial fibrillation was introduced in the 1980's by James Cox, MD. This procedure known as the "Maze" or Cox-Maze" is performed in conjunction with CABG or valve surgery. A series of incisions are made in the atria intending to block the circular electrical patterns or wavelets felt to be responsible for atrial fibrillation. Once the incisions are made they are sutured together and form scar tissue which does not conduct electrical activity. The result looks like a maze leaving only one path for the electrical impulse to travel on from the sinoatrial node to the atrioventricular node. The atria no longer fibrillate in response to the multiple stimuli and sinus rhythm is restored.

Because of the invasiveness of the Maze procedure and the potential complications patients could experience, cardiovascular surgeons researched improvements to this surgical technique. Throughout the years various procedures were introduced that use mini-thoracotomy incisions instead of the traditional sternotomy and/or are performed on a beating heart. Instead of making incisions directly into the heart, the Maze conduction block lines are made in the epicardical layer using energy sources such as unipolar or bipolar radiofrequency, microwave, cryothermy, laser or ultrasound energy.
Some of the common ablation procedures that are being performed at heart centers are:

- Cox Maze procedure also referred to as the Cox Maze III
- Epicardial bipolar radio frequency ablation
- Epicardial microwave ablation
- Variations of the procedures above

Surgical ablation can be done in conjunction with CABG or valve surgery or as a stand alone procedure. The capital investment is minimal and includes the cost of the generator which is a one time investment ranging from $20,000 to $55,000. The single use ablation probes can cost from $2,000 to $4,000.

When performed as a stand alone procedure, surgical ablation can make a favorable contribution to a heart center's profit margin, especially from the Medicare patient population. It can also provide surgeons with additional avenues of reimbursement.

Providing this cutting edge treatment modality for atrial fibrillation can help a program meet growing demand, gain a reputation as a technology leader and differentiate it from other programs in its market. There will be approximately 300,000 new cases of atrial fibrillation diagnosed each year. With this large potential patient population seeking treatment it makes sense for heart programs to explore the feasibility of adding surgical ablation to their compliment of services.

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