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Pearls of Wisdom

A Perioperative Work Environment Based on Values

Can it be so?

CURRENT STATUS

The current perioperative work environment is often frustrated with many negative, daily occurrences. It is not uncommon to hear complaints of "they just don't seem to care like they used to"; "late yet again"; "sick again – nothing wrong with her yesterday – oh by the way its Monday or Friday, what do you expect- I could have written the sick list names in advance"; "she never prepares for the surgery – doesn't know the anatomy, has not pre-read the pick list, isn't organized, table is a mess, count is mixed up, is not keeping up with the surgeon never mind anticipating with pride and efficiency" and the interminable "stays too long at breaks". This list can go on and on, you have heard it all and uttered the same words. What can we do to turn it around, how do we change the environment to one of - "Yeh, lets get to work!"

The next five to ten years will be trying times. There will be three to four generations of workers in the perioperative environment ranging from the late sixties, retiring, to the keen twenty-something with a whole new vision. The young will get called generation X, Y and Z with a presumptive judgement that they don't have the values we had. I dare challenge you, very few have taken the time to find out what those values are, and how will they fit with the needs of the surgical patient. The values are different, the youth are our future. *How do we keep the passionate, professional flame burning and keep everyone working with enthusiasm?*

WHAT IS A VALUES BASED WORK ENVIRONMENT?

A value-based perioperative work environment is one that clearly exudes a professional passion where nurses excel in knowledge, skill, are quality minded and enjoy humor and create appropriate fun. The environment is founded on strong basic education and continuous learning, striving for continual advancement and excellence. The environment will be noted for being "the place to work", with potential employees clamoring to get hired, not unlike the "Magnet Hospitals" in the USA.

There must be a strong environment of caring that focuses on making each patient a special guest who is going to enjoy this visit. The patient's will remember the kindness, warm blanket, comforting hand, soft voice and caring eyes at a most vulnerable and anxious time.

Colleagues and associate workers will feel valued, appreciated, recognized, respected and fully understand the importance and impact of a job well done. Honest and frequent praise will be received and given freely with meaningful impact. Staff will take more responsibility in doing a job well and are likely to take on more roles, since value is recognized. Feedback will be current, appropriate, positive, and constructive. Deficiencies are dealt with in a manner that produces positive results. Employee's go home, each day, with a major sense of having contributed in a meaningful way, with keen anticipation of return the next day. You say this is utopia- what planet did I come from, or get a reality check!

WHAT IMPEDES A VALUE BASED PERIOPERATIVE ENVIRONMENT?

Needless to say we have all the answers without solutions! Unless we know the root cause we cannot rebuild to create a value based perioperative environment. The reasons are

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OH, THOSE BABY BLUES: When you are dealing with a child with PHPV

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In 1995 a mother had concerns about her infant son. She thought she could see a white, crescent moon shape in the upper medial aspect of his left eye. This shape could only be seen when the lights were low and the pupils were dilated. Unfortunately, no one else could see it. She also noticed that her son behaved as if he could not see if she covered his right eye. Instinct told this mother to get answers to her questions. Her family doctor referred her to an ophthalmologist. The ophthalmologist examined the left eye and told the mom that her son has PHPV.

Why does PHPV concern the author of this article? Two reasons. First, is the uniqueness of the condition. Second, is the fact that I was the mother in the introductory story... and the child is my son. As parents we need to be informed and ready to advocate on behalf of our child. As OR nurses we can become advocates for our clients.

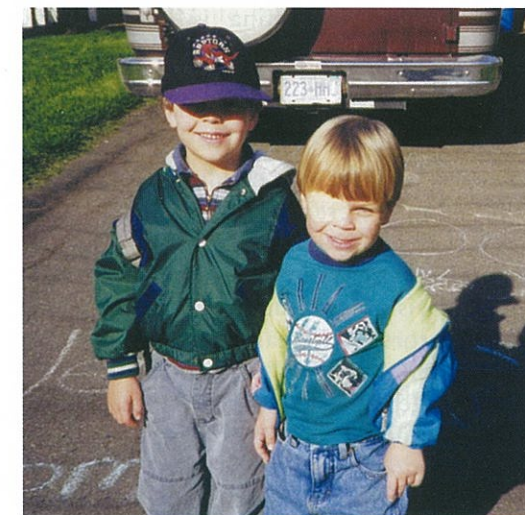
Parents also need to know where to find support, information and resources in dealing with PHPV (and related conditions such as glaucoma and cataracts). As OR nurses we can help point parents in the right direction. In 1993, a group of concerned parents formed the Paediatric Glaucoma Family Association (now titled the Paediatric Glaucoma and Cataract Family Association). Its goal is to improve the quality of life for children with glaucoma and cataracts as well as for their families. They do so by providing information, resources, education, and family support. They can be reached at www.pgcf.org

How does PHPV relate to the practice of perioperative nursing? We can ease parental concerns about the OR experience when surgery is required. In addition, when a surgical patient is a child with compromised vision the emphasis on preventing intra-operative corneal abrasions is even stronger.

UNDERSTANDING PHPV

What is PHPV? PHPV stands for "persistent hyperplastic primary vitreous". By the simplest definition, it is when remnants of the fetal vascular system have remained behind. During fetal development, the spaces within the eye are characterized by luxuriant, but transient, blood vessels. These vessels do not respect the specific chambers of the eye such as anterior chamber or vitreous. The vessels extend from the posterior poles of the eye to the anterior poles of the eye (Goldberg, 1997). This vessel is called the hyaloid artery. As this vessel approaches the lens, it branches out, not unlike the struts of an umbrella. The development of the hyaloid artery begins early in the gestational period. As the fetus approaches the end stages of gestation, the fetal vascular system in the eye has virtually disappeared.

PHPV affects both male and female children. Either eye can be affected but on occasion it can be bilateral. Bilateral PHPV should always be investigated further as it can be associated with various syndromes. From the point of view of this article, we will only look at unilateral PHPV.



Christopher (age 3) patched and his older brother

Photo by D. Atwell

Baby Blues

PHPV, as a unilateral condition, has no known cause other than a developmental "glitch". It is one of the most common congenital malformation syndromes affecting the eye (Wagner, 1997). It can affect the anterior (lens), posterior (retina), or both. The affected eye is usually micro-ophthalmic meaning it is smaller than normal. Many children who are micro-ophthalmic require conformers to stimulate orbital growth to keep the face symmetrical.

Affected infants are usually full term and have not received supplemental oxygen (Goldberg, 1997). Many children affected by *PHPV* are also diagnosed with cataracts and/or glaucoma (Moore, 1994). The child at the beginning of the article has both. Other conditions associated with *PHPV* include cataracts, aphakia, amblyopia, and glaucoma.

CATARACTS

Infantile cataracts can be diagnosed at birth or up to 18 months of age. The incidence of infantile cataracts ranges from 1 in 1000 to 1 in every 10,000 live births. Cataracts have been historically, the leading cause of serious visual impairment in young children.

One of the easiest tests for cataracts is to check for a red reflex in the eyes – the reflex that causes red eye in photos. It is caused by light reflecting off of the retina (Moore, 1994). When no red reflex is seen, that indicates that something is blocking the light from getting through.

Treatment of cataracts in children differs from that of adult cataracts. With children, the longer the delay before treatment of congenital cataracts the more the amblyopia (dimness of vision not due to organic defect or refractive errors) is increased. The best rate of success is removal of the cataract before 3 months of age especially if it impedes vision. There is still some prospect of a good result up to about 6 months of age. Dense congenital cataracts, if left untreated until 9 months of age, are almost impossible to treat successfully.

A few cataracts are small enough not to block light from entering the eye and are treated with dilating drops to increase the amount of light that reaches the retina through the dilated pupil. Some cataracts are only monitored closely and if they do start to impede vision, then more aggressive action can be taken.

APHAKIA

Aphakia is the condition of being without a natural lens either from birth or as a result of cataract surgery or trauma.

For this condition, surgery is only the beginning. Follow up care is very important to visual development.

Once the lens has been removed, a new one must be provided. This involves three choices – glasses, intraocular lenses, and contact lenses (Foster, Gilbert, Rabi, 1997).

Contact lenses are the method of choice for correcting aphakia in children because the refractive power is easy to change as the child grows (Moore, 1994, Morgan 1995). Parents need to become skilled at inserting and removing contact lenses, and at the same time they also become skilled daily observers of their child's eye and can quickly note any changes that may occur.

Glasses work well with children with bilateral cataracts as the refractive power in each lens is very similar. Glasses also work as a back up system (should a contact lens be lost) or in cases where bifocals are needed to increase the focusing capabilities for the child. Glasses are also used with Plano lenses to offer protection to the eyes (Moore, 1994).

IOLs (intraocular lenses) are used routinely in adults but are not the first choice in young children, especially those under the age of 2. This is due to the fact that the eye is still growing and changing and it is difficult to predict what the final visual acuity will be in one so young. However, older children receive more of these lenses as their visual acuity is more stable because the eye is stopped growing. Due

Baby Blues

to the fact that children with *PHPV* have a malformed eye, IOLs are usually not an option.

If a child has become intolerant to contact lenses then IOLs provide an alternative method of correcting amblyopia. There is no clear age at which the experts agree that IOLs can be used. One of the major issues concerning IOLs is their inability to change the refractive power as the child grows. As more and more children receive them, the long-term outcomes will be known (Moore, 1994).

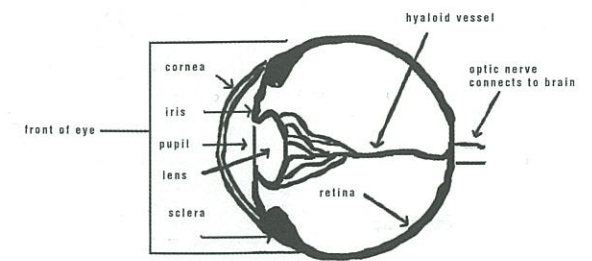
AMBLYOPIA

Amblyopia is when an individual has a "lazy eye". The most effective way to treat amblyopia is with occlusion therapy – blocking the vision in the stronger eye and forcing the weaker eye to work (Moore, 1994). This therapy may be required anywhere from a couple of hours every other day to all waking hours. Adhesive patches are the most common tools. If a child becomes intolerant of the patches, due to allergies or non-compliance, an occluding lens (black contact lens worn in the stronger eye) can be used instead. If the difference in acuity in both eyes is not too great, atropine drops can be used to blur the vision in the stronger eye. This process of occlusion therapy can continue until the child reaches 10 years of age by which age the visual pathways in the brain have become set.

GLAUCOMA

Glaucoma is a group of diseases of the eye characterized by increased intraocular pressure. The result is pathological changes in the optic disk, typical visual defects, and eventual blindness if treatment is not successful.

Primary infantile glaucoma occurs in the absence of any systemic disease or other ocular condition. It is an uncommon disease, 1 out of 10,000 live births, but its impact on visual development is extreme (Wagner, 1993). The goal of treatment is to stabilize the intraocular pressure (IOP) to preserve vision. Secondary glaucoma is associated with structural, metabolic, miotic or other diseases of the eye.



The optic nerve in infants and children is more vulnerable to increases in IOP than in adults.

If a child presents with excessive tearing, hypersensitivity to light, and squeezing of the eyelids, glaucoma is suspected. Corneal clouding, bulging eyes and "red eyes" that mimic conjunctivitis are also symptoms. Ocular enlargement occurs because the infant globe, unlike the adult one, is distensible. Pain is unusual with primary developmental glaucoma. A corneal diameter of more than 12 mm in an infant is suggestive of infantile glaucoma. In order to make a proper diagnosis, an E.U.A. (examination under anesthesia) is needed as most young children will not cooperate fully (Wagner, 1993).

If left untreated, infantile glaucoma is progressive, eventually resulting in blindness. Spontaneous remission has been reported but it is extremely rare (Wagner, 1993). The earlier the onset of glaucoma, the poorer the visual prognosis. Despite the ability of being able to control IOP (intraocular pressure) in 85% of cases, only 35% of patients have visual acuity better than 20/50 (being able to see at 20 feet what a person with normal vision can see at 50 feet). Although the disease is uncommon, successful management to prevent blindness depends on early recognition by the paediatrician.

There are medications on the market today to aid in the management of glaucoma. Some of these medications slow down the production of the aqueous humor, constrict the pupil, and/or increase aqueous outflow. Medications are added and removed until a combination that works is obtained (Wallace, Steinkuller, 1998).

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In addition, these surgical procedures work very well in the paediatric population:

1. Goniotomy is an operation for glaucoma that consists of opening the canal of Schlemm under direct vision. This procedure is very effective when glaucoma has been recognized early.
2. Trabeculectomy/trabeculotomy are surgical procedures that remove or break up part of the trabeculum in the eye to relieve pressure caused by glaucoma. They involve removing a tiny piece of the eyeball right at the place where the cornea connects to the sclera and creating a flap to allow fluid to escape the anterior chamber without deflating the eye. Along with that tiny piece of cornea and sclera comes a piece of the iris. The whole area is called the trabeculum. Fluid can then flow out onto the surface of the eye and be absorbed by the conjunctiva. Sometimes, an additional piece is taken out of the iris so that anterior chamber fluid can also flow backward into the vitreous part of the eye. This procedure is called an iridectomy. The results of goniotomy and trabeculotomy are about the same.
3. Implants are tiny tubes connected to a roundish or oval plate that are used to direct the aqueous humor to a space just outside the eye. Some implants have small valves that regulate the flow. These implants help to lower the IOP and are used when adequate control has not been achieved with medication and other surgical techniques or in children who have had cataract surgery. They are usually made of polymethyl-methacrylate (PMMA) or silicone.
4. Cyclodestructive procedures are used when the ciliary body needs to be destroyed to decrease the amount of aqueous humor that is produced. This can be done with laser or cryotherapy.

Parents should be advised that more than one procedure might be required to control the IOP in many cases (Wagner, 1993). End stage glaucoma, in which a child may have a blind or painful eye, may require enucleation for management.

Why has information on cataracts, aphakia, amblyopia and glaucoma been included in a discussion of *PHPV*? In regards to the case first presented, it is and has been a daily routine to deal with each of these. When this child was an infant, the parents dealt with the concerns of anesthesia and cataract surgery on one so young. The parents dealt with the daily struggles of inserting a contact lens into the eye of a less than cooperative child. They dealt with occlusion therapy to build vision in the weaker eye. Monitoring the health of the weaker eye that has also developed glaucoma is a daily occurrence. Today, all these activities are routine. That is how they deal with a child with *PHPV*.

For more information about *PHPV*, or related conditions, please visit the Paediatric Glaucoma and Cataract Family Association's website at www.pgcfca.org or contact the author at atwell@primus.ca. *

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