SMITH JI: Seeing Solid: Realistic Depth Discerned in Single Images (Correspondence)

MIMS III: The Medicare Fee Schedule Was Not Evolved to be a Basis for Pediatric Medical Care (Editorial)

*** ORIGINAL SCIENTIFIC ARTICLES ***

SHOKIDA, ELETA, SIDELNIK and GABRIEL: Is One Eye Better Than Two in Strabismus? Or Does the Misaligned Amblyopic Eye Interfere with Binocular Vision? A Preliminary fMRI Study

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“... the belief that one’s view of reality is the only reality is the most dangerous of all delusions ...”
-Watzlawick, 1976

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D. BRIAN STIDHAM MEMORIAL LECTURESHIP

LECTURE to be published annually in
Binocular Vision and Strabismus Quarterly

Donations Solicited to Fund Lectureship

To the Editor:

The Pediatric Ophthalmology community lost a great doctor last October 6, 2005, with the death by murder of D. Brian Stidham. I am attempting to create an endowed lectureship to remember Brian in our community and within pediatric ophthalmology, and wonder if I could ask you to consider helping in this regard. I know that your journal concentrates on strabismus and binocular vision, but could I interest you in publishing the "Stidham Lecture in Pediatric Ophthalmology and Strabismus" that will hopefully be given on a yearly basis? I would work with the presenter to make certain that a manuscript would be produced that would be of acceptable quality. Having a target journal for the presentation would be a great carrot to draw top speakers to Tucson on a yearly basis to give such a talk.

We have raised $14,000 towards a target of $50,000 endowment that would ensure that the lecture would be perpetuated. I am committed to continue fundraising until the goal is met. If Binocular Vision and Strabismus Quarterly would serve as the publisher of the named lecture, I feel certain we will be able to both attract top speakers and donors to remember Brian in the years ahead, and to provide a great lectureship in pediatric ophthalmology and strabismus to our professional community which would enjoy greater readership and distribution.

Joseph M. Miller, M.D., MPH
Head, Ophthalmology and Vision Science
University of Arizona, Tucson, Arizona

In reply:

We are honored to be asked and will most definitely be pleased to publish this lecture each year. We would encourage our readership to donate to this fund: Checks should be made payable to The University of Arizona Foundation with memo of "Stidham Endowment" and sent to Dr. Miller at U AZ, Ophthalmology, 655 N. Alvernon Way, Ste 108, Tucson AZ 85711.

We would encourage our readership to donate to this fund: Checks should be made payable to The University of Arizona Foundation with memo of "Stidham Endowment" and sent to Dr. Miller at U AZ, Ophthalmology, 655 N. Alvernon Way, Ste 108, Tucson AZ 85711.

- PER

ADVICE for authors submitting papers to Binocular Vision & Strabismus Quarterly©

1. READ & FOLLOW INSTRUCTIONS FOR AUTHORS! In addition:
2. READ & FOLLOW INSTRUCTIONS FOR AUTHORS! In addition:

Reviewing the literature: A proper review of the literature starts with a review of current and appropriate textbooks, especially the latest edition (currently the Sixth of von Noorden’s Binocular Vision and Ocular Motility by Mosby, and Duané’s loose-leaf text Clinical Ophthalmology. Anticipating a future requirement, it will only be to your credit now to specifically state what was included in your literature search, i.e., the topics or subjects and the sites searched. For any article submitted here that should include at a minimum, Index Medicus (Medline) from 1966 to the present, Index Bnoculus Primus, 1985 to the present, and the Internet for the American Orthoptic Journal.

Acceptable TERMINOLOGY not acceptable
AHP Abnormal Head Postures:3 face turn chin up/down Head tilt
retroequatorial myopexy Fadenoperation retroequatorial myopexy posterior fixation suture suspension-recession hang back, hang loose Bielschowsky Head Tilt Test three step test strabolog-y, ist Strabismology, ist exact p values “Statistically significant”

Re: “lost to followup” - Avoid this at all costs; First it raises the possibility that the patient had a (=) bad result or was otherwise so unhappy with their care that they never came back - or went elsewhere or went nowhere out of fear or dissatisfaction. If they are “lost followup” you cannot refute the possibility that one those very unhappy things happened! Second it is inexcusable - medico-legally. Third: It reflects poorly on you as both a health care professional and as a scientist and Fourth: under the worse of circumstances suggests or indicates that you may discriminate against those of lower socio-economic status (research findings).

WRITING STYLE IS IMPORTANT TOO:
(from Investor's Business Daily Nov. 26, 1997 by M. Stettner)
'Make Dry Data Come Alive in Your Reports ... tips on making your technical writing come alive:

1. Remember that less is more. ... simplify your language and prune extra words. Eliminate jargon, and keep your sentences and paragraphs short. 'If you write in little bites, you break down lots of information for the readers so that it’s easier to absorb,’ said Carolyn Mulford, president of The Writing Coach.

2. White in the active voice. ... For example, write 'When you review the data, you will note these trends'. Avoid saying 'These trends were noted upon a review of the data.' Another example: Write 'We will examine', not, 'This has been examined'.

3. Insert 'tal king subheads'. ... unbroken text can intimidate any reader, ... organize your writing in sections with each carrying an easy to understand subhead ... a talking subhead ... alerts the reader of what you’re about to discuss ... for instance, instead of heading a section with ‘Cost of Scanners’ try 'Rising Cost of the Next Generation of Scanners'. subheads should average 7 words.

4. Run a test. ... ask someone in your audience group to read your manuscript.

TABLES: Don't forget the crowding phenomenon. It works in Tables too. We prefer spaces to lines to separate the items in a Table. You can also get more material within whatever size limits you may have, using spaces instead of lines, especially vertical lines. Horizontal lines are less of a sin.}

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SURGICAL MANAGEMENT OF STRABISMUS

A Practical and Updated Approach, 5th edition

EUGENE M. HELVESTON, M.D.

Review by David K. Coats, M.D., Houston, Texas

Six pounds of pure muscle; no fat or byproducts here! That's what the 5th edition of Surgical Management of Strabismus packs. Quintessential strabismologist Eugene Helveston has done it again.

This classic textbook is once again jam-packed from cover-to-cover with all the information that the strabismologist needs to properly plan and execute the management of both simple and complex strabismus disorders.

The text is wonderfully illustrated with step-by-step instructions on how to perform all contemporary procedures that should be in the armamentarium of any serious strabismologist. One of my favorite "extras" in this textbook is a chapter that colorfully explores the history of strabismus surgery from its beginning. What most separates this edition of the textbook from previous editions is the inclusion of an extensive array of case examples complete with histories, clinical photographs, and details of surgical planning. While a few case examples were included in earlier versions, expansion of the case example section in this edition is so extensive that virtually any condition can now be reviewed in detail with a front row seat through the eyes of this world-renowned expert.

Space should be reserved for Surgical Management of Strabismus, 5th edition, in the bookcase of every ophthalmic surgeon. Undoubtedly this reserved space will be vacant most of the time, as this book is most likely to remain open and in constant use on the surgeon's desktop.

THE HISTORY OF STRABISMOLOGY

Edited by Gunter K. Von Noorden, M.D.

THE BOOK

The HISTORY OF STRABISMOLOGY is the first monograph devoted entirely to the development of strabismology in different regions of the world. Each of the co-authors has been assigned a special chapter in which his or her knowledge of the material is particularly profound. The origins of strabology go back to the beginning of medicine, thousands of years ago. The story how this specialty evolved from quackery and superstition in ancient times to its present state of sophistication is a fascinating one. It should be of more than passing interest, not only to those specialized in this field but also to others with an interest in the history of ophthalmology.

The book consists of approximately 400 pages and is abundantly illustrated with fine reproductions of old documents, engravings, drawings and historic instruments, many of which are from ancient and rare manuscripts. Printed on deluxe art paper, THE HISTORY OF STRABISMOLOGY is bound by hand and gold embossed on book plate and spine.

THE EDITOR Gunter K. Von Noorden is a world-renowned author and strabologist. His expertise in the entire field of strabismus is documented in his textbook (now in its 6th edition) and uniquely qualify him to organize and edit a book on the history of strabology.

THE AUTHORS

The authors are prominent strabologists from different parts of the world, internationally known for their contributions. Indeed many have actually played an active part in shaping the history of strabismology during the second half of the 20th century. They are joined by a comprehensive ophthalmologist who is also an ophthalmic historian of international reputation and by one of the leaders of the orthoptic profession. The following contributed to this book: Henderson C. Almeida, MC, Shinobu Awaya, MD, Alberto Brown-Limon, MD, William E. Gillies, MD, Eugene M. Helveston, MD, Joseph Lang, MD, Emma Limon de Brown, MD, Gunter K von Noorden, MD., Hans Rmekey, MD, Geraldo Ribeiro de Barros, MD, and Gill Roper-Hall, DBOT, CO, COMT.
MULTIMEDIA REVIEWS

LEE M. JAMPOL AND ANGELO P. TANNA, EDITORS


To quote Dr. Kushner, “Many roads lead to orthophoria.” The treatment of strabismus, that “art form” with scientific underpinnings, can be the bane or the joy, or more likely both, of the ophthalmologist’s existence. For those of us in pediatric ophthalmology, it is our “bread and butter” and the source of endless discussions and debates. There is enough science to provide a logical approach, and enough art to make things really interesting.

This book is a compilation of 68 cases published over 17 years in the journal Binocular Vision and Strabismus in its "Grand Rounds" section, edited by Dr. Kushner. The cases are presented in a standardized format, including summary of the therapeutic problem, history, eye exam, and final diagnosis. Dr. Kushner states that he was not attempting to solve a clinical problem for a specific patient but rather presenting an intellectual exercise with input from respected colleagues. Indeed, he does not present his own opinion, nor the actual results following treatment on most of the cases. Several experts in the field present opinions on the diagnosis and treatment. Each case is followed by the editor’s perspective which highlights the issues raised. The cases cover clinical topics from nonparalytic vertical strabismus to cataract. There were 249 different individuals who served as discussants for one or more cases. This provides a broad perspective covering many schools of thought.

The cases are numbered and have descriptive titles such as “A Case of 'V-pattern' Esotropia with Excyclotropia after Bilateral Superior Oblique Tucks.” These allow for easy selection of cases for clinical purposes or teaching. The cases are interesting and informative analyses of complicated problems, primarily involving strabismus. However, although it is useful to have these case reports, previously published in a journal, collected together in one volume, it would have been more useful to have included outcomes and follow-up. Nonetheless, the compilation provides a thought-provoking read, an aid to clinical problem-solving, and a stimulating jumping-off point for teaching sessions.

Marilyn B. Mets, MD
Chicago, Illinois, USA


People and Places from Sightline, Wilmer Eye Institute, spring 2009, p.4:

Thanks in part to funding from Research to Prevent Blindness, researcher David Guyton has developed an automated pediatric vision screener to catch amblyopia earlier in children, thereby increasing the opportunity for successful treatment.
Editor’s Note: We are here all doctors of some sort or medical paraprofessionals. But for many, medicine is only a part of our lives. For most, having and raising and providing for a family is more enough to handle in addition to a professional career. But some have other interests and even more needs to fulfill. Prior contributors whose extracurricular adventures have been featured here include Oliver Sacks, Robert Enzenauer and your editor, of course. Here’s another special story from another one of our editorial board members. Might you wish to do likewise?

One Hundred Miles in One Day

The Arkansas Traveler

David K. Coats, M.D.
Houston, Texas

Over the past few years, I have become obsessed with running and would run day and night if my body would allow it. Perhaps it is a manifestation of my mid-life crisis, but I am not sure. On October 3-4, 2009, I ran and completed The Arkansas Traveler 100, a 100 mile run in the Ouachita National Forest near Perryville, Arkansas. When Paul Romano said he wanted to publish a first hand account of this insanity, I was eager to comply.

THE PREPARATION

Having never run more than a standard marathon distance (26.2 miles) before, jumping to the century mark and running almost 4 times as far seemed more fantasy than reality. All of my good friends said I should work up to it. Never-the-less, after completing a 257 mile hike in the Rockies over 12 days in mid July with my wife,(Judy and I had the honor of assisting their logistical needs -Ed) I began to train in earnest for the Arkansas Traveller 100. At first I ran 30 miles a week, then 50 miles a week, finally finishing 2 weeks prior to the event with 70 miles of running in one week. Every week from late July until 1 week before the 100 miler began, I ran at least 25 miles on Saturday morning. Because the race was in a mountainous area of Arkansas, and Houston is almost as flat as a pancake, I traveled on many weekends to find hills to run on. My longest training run occurred 2 weeks prior to the actual race. It consisted of an 11 hour run that started at 2 PM and concluded at 1 AM, covering 48.2 miles of a combination of roads, hills, and trails.

I needed qualified advice on how to complete a 100 mile run without imploding along the way. I arrived in Perryville early on Friday October 2, to check in for the race and to weigh in. Running extreme distances is inherently dangerous and race officials weigh runners at several points along the way. If a 5% reduction in body weight is detected, the runner is held until he/she drinks enough fluid to bring body weight within race limits. If a 7% reduction is noted, the runner is severely dehydrated and at high risk of serious harm. Such runners are immediately pulled from the race. I weighed in at around 162 pounds (I don’t remember my exact weight). I spent several hours talking with people who have run 100 milers before and all were ready with a good deal of advice; some logical, some not so great. The best advice that I got was from my running coach who simply said “the most important thing is to just keep moving forward.” He admonished sitting down, resting, and spending more than a trivial amount of time in aid stations. After checking in, I returned to Little Rock, met my family, and finished off the day with the traditional pre-race pasta dinner.

THE RUN
I awoke at 4 AM on Saturday October 3, dressed, filled my backpack with fluids, GU, and other foods and we headed off to Perryville. We arrived at about 5.30, a half an hour before the race was to start, picked up my race number, and made final preparations.

At 6 AM sharp, still dark outside at Camp Ouachita, the gun sounded and the 96 runners participating in the event headed down SH 324. I had been advised not to take off to fast and leave everything I had in me at the starting line. The first mile of the run was awful. My right lower leg hurt with each step. It felt like a knife was sticking into my tibia and being twisted each time my foot hit the ground. I wondered how long I could endure before I would have to drop out. About 1.5 miles into the race, we turned left off the pavement and continued on a gravel road, and the pain in my leg immediately ceased. We would not run on pavement again until the last 2 miles of the race.

The next 15 or so miles of the run followed the Ouachita Trail. This is a single track trail that winds endlessly up and down and over boulders, stumps, trees, and streams. There is no flat ground anywhere in sight. This area alone will test your mettle. I tripped and stumbled over boulders and roots repeatedly during this portion of the trek, once being thrown so far forward that I felt a pop in the muscles along the right side of my spine and I felt a dull pain in the area for about 2 hours before it subsided. But I never actually fell.

My family met me at the Lake Sylvia aid station at mile 16 where I refilled my hydration pack with 3 liters of Gatorade and replenished my food supply. I was feeling good at this point, and I kept moving along the course. Only 84 miles to go, I reassured myself. From here, we soon encountered a large section of un-maintained gravel road and 4-wheeler trail that was marked with water filled potholes and mud slicks that had been aggravated by rains in the preceding days. By mile 20, large gaps were present between runners, and it was infrequent to see another runner after this point, except those you passed or who passed you. I meandered around the mud slicks and pot holes as much as possible, sometimes finding myself sliding out of control as I came down hard on an area of sod that appeared stable, but was not.

I approached the Lake Winona aid station located at about the 1/3 mark and stopped briefly to re-supply, but never stopping for more than a minute or two, and never sitting down, as I was afraid from this point forward that if I sat down, I would not be able to get up and resume running. The weather was beautiful and sunny with a temperature in the mid 80s. I reapplied sun screen and was on my way. The next approximately 10 miles had an elevation gain of a bit over 1500 feet. This elevation gain in the mid-day sun after running for more than 6 hours begins to take its toll, and I noted that I was beginning to slow down, though not doubting that I would complete the trek at this point.

I encountered some other runners at the Club Flamingo aid station at about 40 miles, and this provided some much needed diversion for a few miles, before I began to advance ahead of them. Seventies music was blasting at full force at this aid station and provided a great energy and enthusiasm boost. I’m not exactly sure where I encountered the next stretch of the path, but we had to tread lightly over an un-maintained section of road that can be described in no other way but with the term gnarly. Here, for a distance of about 2 miles, the path was covered in tall green grass that greatly limited the view of the terrain below our feet, which was covered with small boulders, resulting in constant straining of the feet and ankles as we moved forward. All the while concerned about an ankle sprain or worse, I made it through this area still feeling good.
The first weigh-in station was at the Powerline aid station at mile 48.2. I had now been running for about 10 or 11 hours. My weight was 176 pounds, thirteen pounds more than my pre-race weight. That’s a lot of Gatorade and GU! Knowing that staying hydrated and well fed during the first half of a 100 miler was the key to having a successful second half, I was elated, and I just kept moving forward. I refilled my hydration pack, got more food, and strapped on a headlamp, because it would likely be dark before I made it to the next aid station. Tired of music, I began to listen to Double Cross, by James Patterson. This is a murder mystery with a tape time of about 8 hours, enough to distract me for most of the night. I reached the Turnaround aid station at mile 58 a couple of hours later. As I approached the Turnaround aid station, I counted about 40 runners ahead of me running in the opposite direction. From this point forward, we would retrace our prior course, except for the Ouachita Trail. Having just traveled these remaining 42 miles by day in the opposite direction, I recognized that it would be much more challenging in the dark. The weather was great, and even though the forecast was for temperatures in the mid 40s during the dead of the night, I was feeling quite comfortable. I changed into a dry shirt and foolishly left my rain-wind jacket at the aid station, not feeling I would need it and not wanting to carry it for the next 40+ miles.

It was now pitch black, in the middle of the woods, somewhere in Arkansas as I continued to plow through the course, rarely seeing other runners and periodically being alarmed or even frightened by sounds that go bump in the night or animal noises and rustling in the woods that sounded too close for comfort. I realized that I was beginning to slow and that it was getting more difficult to move one foot in front of the other, especially as I approached the steeper hills along the course. At an aid station somewhere along the way, a race volunteer told me to be careful, saying that weather was moving into the area and it was going to get very wet soon. Damn, why did I leave my rain-wind gear at the aid station? I realize now that I was not thinking clearly, and that running non-stop for more than 12 hours had dulled my thought processes. I would have to be more deliberate from here onward.

I kept thinking about the impending rain, the soggy trails up ahead and the temperature, as I felt the mercury gradually dip through the night. I needed some protection, and as I was leaving an aid station, I found a garbage bag that would function well for this purpose with a little modification. I tore holes in the bag for my head and arms, and stuffed it into my backpack. Now I was ready, and I kept moving forward.

I was about half-way through listening to Double Cross. I was alone in the woods, in the pitch black October night, with only the occasional sounds of the bushes rustling in the adjacent woods. It became apparent to me that listening to a murder mystery was probably not the most comforting think to do in this situation. But it was all I had to distract me, and I had noticed that my pace had picked up again. Perhaps fear was helping to push me forward, so I continued to listen.

I ran back over the obscured boulders along the green grass portion of the route, and back over the trail that I had run in the daylight earlier. There was still little flat in sight and the trail continued to roll upward or downward, with flat areas few and far between. During the day, the path was marked by pink ribbons tied to tree branches. At night, it was marked by glow light sticks. This worked well until the sticks began to dim, making them much more difficult to see. We had been told that it was not uncommon for rednecks to steal the glow light sticks, leaving runners feeling lost. This, plus the fact that I knew that this was the first weekend of bow hunting season added an element of uncertainty to the night portion of the run.
At some point, the sky opened up and it began to rain. Hard. So hard, that it was sometimes difficult to see more than a few feet ahead. The light from my headlight reflected off of the raindrops, further disturbing the view of the trail ahead. I had been told by my coach that during the second half of the race, things would start to go wrong; they always did, he had said. Well, he was right. There were times that I could not feel my legs moving underneath my body, but I was still moving forward. The bottoms of my feet alternated between numbness and pain with each step. Without warning, my legs gave way on several occasions, as my body tumbled toward the ground. Each time, I caught myself before hitting bottom, but this was an entirely unusual feeling.

The rain continued on and off through the rest of the night, and my eyes and vision adjusted accordingly. The path was slicker and more perilous than before the rain, and I found myself skating across large mud slicks often, as I struggled to catch my balance to avoid a fall. My feet were soaking wet, but thanks to the garbage bag, my body was dry. Though I still felt comfortable, I could tell that the temperature had dropped because of the visible water vapor that I produced with each breath. This white cloud blew directly in front of my eyes, making it impossible to see the trail except between breaths. I learned to exhale through the corners of my mouth to expel the water vapor laterally; much like a SCUBA mouth piece expels compressed air to the side so that it does not interfere with vision. While I never got cold, I was beginning to feel somewhat uncomfortable.

I probably still had about 30 miles to go by midnight, and I was having trouble keeping my mind active. Now instead of alternating numbness and pain, my feet hurt with each pounding step on the ground. I turned out of an aid station somewhere along the way and started powering down the road, rejuvenated by a handful of fresh food. In the distance behind me, people began to yell. At first the sounds did not register, but I soon realized that they were screaming at me. I stopped briefly to listen through the rain, and through *Double Cross*, and realized that they were trying to tell me that I was running the wrong way! I back tracked and got started again. I was on a long stretch of path, and I had not seen a glow light stick in some while. Was I lost again, or were the rednecks playing tricks on me? I am not sure what happened next, but I found myself several miles down the road, still on the right course. I think that I was either day dreaming or that I had fallen asleep-while running! I had heard of this happening before, but it had never had it happen to me. It was about 2 in the morning, and I needed to keep my mind alert. I finished *Double Cross* and turned off my iPod for the rest of the trek. I weighed in at around 168 pounds at the final weigh station with about 1/3 of the race to go.

It began to rain again and the already soaked trail became almost impassable in a several spots. I began to think about the fact that I had been lucky so far and, while I had tripped and stumbled repeatedly, I had not fallen so far. I shouldn’t think about such things, I thought, it might jinx me, but I could not put the thought out of my mind.

With around 20 miles to go, my headlight began to flicker and the light to dim. The overcast night sky was as dark as I had ever seen. Not a light in sight, it was as dark as being inside of a cave when the headlight was not on. I became concerned that I might have left my backup headlamp somewhere along the way as I had done with my jacket. Before I lost my light completely, I took off my pack and looked inside. Fortunately, it was there and I made the trade. Unfortunately, my backup light had about half the power of my primary light. It became more difficult to find the proper footing, and I found myself sliding more than ever. I hit a mud slick and slid forward, just catching my balance before I lost it. I continued to move forward, slipping and sliding occasionally.
along the way.

Then it happened. I hit the one mud slick I could not control. My foot hit the slick and I slid forward, out of control. And then my foot suddenly sank in the mud and my body was propelled forward. I hit the ground hard with my right shoulder and arm, and rolled over on my back as my body impacted the ground. My shoulder throbbed, my right hip was sore, and my right forearm was cut. My arm was stinging as if alcohol had been poured on an open wound. I thought I might be down for the count. I could not will my body to get up. It felt good to be horizontal, on the ground, off my feet. I knew that if I stayed this way for long, it would be over. Somehow, I managed to get to my knees, and eventually to a standing position. Bleeding, covered in fresh mud and sore, I began to move forward again.

It continued to rain. I continued to have problems with my footing, and I was slowing down. Every step was more painful than the last one. There was a rock in the bottom of my right shoe that was beginning to irritate and annoy me. I wanted to stop and remove it. But this would require sitting down, and I did not know if I would be able to get up again. I was also afraid that I would not be able to stuff my increasingly swollen feet back into my shoes if I took them off. I knew that feet tend to swell with prolonged running like this and I had left a larger pair of running shoes at an aid station about 10 miles behind me. I had decided not to change into the larger shoes, though, as I did not recognize that my feet were beginning to swell.

For more than 20 miles, I kept telling myself, “I’ll never do this again.” My eyes strained to find the 85 mile marker. Between the rain, the fatigue, the pain, the darkness, my dull headlight, and my contact lenses that had become dried and stuck to my eyes, even small tasks were becoming challenging. I should have seen the sign 30 minutes ago, or was I lost again. Eventually, I spotted it, and realized that my pace had slowed. It was around 3 o’clock in the morning. I kept moving forward. Now I was looking for the 90 mile marker. I knew from my long training runs that small, achievable goals would help to keep my mind active and keep me moving toward the finish line. I ran for more than an hour and a half, and the sign was nowhere in sight. I kept running and could not find the sign; another hour had gone by. I had not seen a glow light stick in some time. I did not know if I was lost, or just running very slowly. I kept running, and still no 90 mile marker. Finally, in the distance, I saw the sign. At first, I could barely make out the “9” and as I approached, it realized the sign read “95 miles.” I had run right past the 90 mile sign without realizing it. I was either distracted or asleep again. Not only had my pace picked up, but I had only 5 miles to go! I knew at this point that I would make it, but it I still kept repeating to myself, “Never again.”

I kept moving forward, finally hitting the final stretch-asphalt-with a little under 2 miles to go. My legs had had it. There was a stretch of uphill that threatened to end it for me. I repelled at the thought of getting within 2 miles of the finish line and not going all the way. It was all I could do to put one foot in front of the other to propel myself a bit further toward the goal. Finally, I settled on a strategy. I noted a row of reflectors on the side of the road. I made it my only goal to make it to the next reflector; small achievable goals. A car drove by and asked if I needed any help. I can imagine what I must have looked like; alone on a dark road somewhere in the middle of Arkansas, weaving on foot, like I was intoxicated, down the middle of the road. Though difficult, I said thanks but no thanks, and prodded onward. Run to the next reflector, run to the next reflector, run to the next reflector. Just keep moving forward. I could see the entrance to Camp Ouachita in the distance and I could hear the occasional sounds of humans. With less than 100
yards to go, my legs came alive. With no other runners in sight and with Christmas lights lighting up the finish line, the finish line volunteers started blasting music over the loud speakers as I approached. It was an exhilarating feeling. Finally, after 30 liters of Gatorade, 32 packets of GU, and countless power bars, and other energy foods, I crossed the 100 mile mark. There had been 96 starters, 66 finishers, and I was the 17th person to cross the finish line. It had taken 23 hours, 50 minutes, and 59 seconds, and I was exhausted.

I retired into the clubhouse, changed into dry clothes, and called my family to come and get me. I found a warm corner bench and went to sleep almost immediately. I awoke an hour later, realizing that, in retrospect, it had been a solidly good time throughout. I began to plan the next ultra run, for which my family thinks that I am crazy. But, in retrospect, it was great fun and I am ready.

NEWS and ANNOUNCEMENTS:

New Meeting Announcements


7th Annual Solitude Pediatric Ophthalmology Roundtable. The Newpark Resort. Discounted lift tickets. Register on line at www.intermountainphysician.org/cme/pedophthalmology 2010 or contact Michael Abrams, MD at 801-4262-9800 or bobbymike@comcast.net.


Nalin Jumar, Dphl, at IER@uic.edu

Vail, Colorado. March 15-19, 2010

Current Concepts in Ophthalmology. Vail Mountain Marriott. For information: www.HopkinsCME.edu. Tel: 410-502-9634. Email: cmenet@jhmi.edu

from “Pediatric and Developmental Pathology” News Release.

FOR IMMEDIATE RELEASE

Maternal cells found in infants may lead to autoimmune disease.

Maternal cells found in infants could point to a mechanism for autoimmune disease, according to a report published in the latest issue of Pediatric and Developmental Pathology. Microchimerism is the harboring of cells originating in one individual by another individual usually exchanged between mother and child. Maternal microchimerism is the discovery of the mother’s cells in the child, sometimes lasting through adulthood. Maternal microchimerism’s connection to autoimmune disease has been established. ... maternal parenchymal cells ... Maternal cells were found in all subjects.

To read the entire article: “Chimeric Maternal Cells with Tissue-Specific Antigen Expression and Morphology Are Common in Infant Tissues” visit:

www2.allenpress.com/pdf/pdpa12_5 fnl 08-07-0.pdf . Media contact: Amy Schneider <aschneider@allenpress.com>
POSToperative adjustable suture BINOCULAR ALIGNMENT strabismus surgery

BIAS DECLARATION: I WASN’T HALF WAY THRU MY TWENTY YEAR CAREER as a practicing strabologist when this technique started to be adopted and became popular. And as is so typical of our medical profession, the new technique became quickly popular and widely adopted long before there was any evidence whatsoever that it wasn’t WORSE or in any way superior to longstanding standard eye muscle surgery. Our patron saint, Marshall Parks practiced strabology for another 20 years before quitting and he never adopted it. He said he didn’t have to, to get the best results he could. At the time, we did a few such procedures and were entirely unimpressed, rather dumfounded by what this procedure required in the way of time and effort and inconvenience for the surgeon and sheer fear of pain or discomfort in all respects for the patient, and obvious inapplicability to our majority of younger and youngest patients.

Nonetheless it soon became widely accepted for everything in spite of the continuing lack of studies. We did do our own study (The Change in (Bin)Ocular Alignment Between the First Day and Six Weeks Following Eye Muscle Surgery. Am Orthoptic J 1986; 36:99-107) on the relative inability of predicting final binocular alignment after strabismus surgery based on the binocular alignment in the first 24 hours postop’. It was really not possible. THEN, how (TO WHAT ALIGNMENT) could you adjust it WITHIN 24 HOURS to alter the outcome alignment?? In fact After Apt & Isenberg (Eye Position of Strabismus Patients Under General Anesthesia. Am J Ophthalmol 1977; 84:574-579) figured out that there was a predictable relation between the preop’ deviation and the binocular alignment of the eyes under general anesthesia and we confirmed it, we investigated whether one could improve surgical results by the INTRAOperative adjustment of the amount of surgery we did. And it did work for us quite well, improving our overall results from 47% to 90% (in anomalous cases; 79% in non-anomalous) and no one has significantly improved on those surgical results we obtained since then.

At the recent AAO meeting, one of the highlights of subspecialty day for strabology-ped-ophth was a debate on just this subject a summary of which the AAO published in its EYENET newsletter coverage of the meeting.

We reprint it herewith:
Although not specified, this Discussion is about POSToperative suture adjustments:

**Adjustable sutures in strabismus surgery: yes or no?**  
In this point-counterpoint discussion David L. Guyton, MD, and David A. Plager, MD, took on the issue of whether to use adjustable sutures in strabismus surgery in both children and adults.

Dr. Guyton said he uses them almost exclusively for all ages. And he uses them on all extraocular muscles except for the inferior oblique muscle.

While it’s true the learning curve can be steep and initial results may be frustrating, adjustable sutures improve success rates and there is less anxiety for the physician, knowing there will be a second chance to obtain the desired result.

He offered data from his own studies to show the effectiveness of adjustable sutures. In children age 6 months to 10 years, success at three months postop was notably higher than in similar nonadjustable cases, 79 percent vs. 64.5 percent. And the reoperation rate with adjustable sutures in adults is 11 percent across all groups.

He acknowledged that it does take more time—intraoperatively about three to five minutes more per muscle, and for adjustment an additional 15 to 20 minutes. While the cost is higher initially with adjustable sutures, he believes the long-term cost of nonadjustable surgery, with the increased morbidity and greater number of procedures required, may actually be higher.

When it comes to adjustable sutures, remember the golden rule, he said. “Do unto others as you would have them do unto you. If you were having strabismus surgery, would you want the opportunity to have it fine-tuned to have a better chance at success? Think about it.”

Taking the opposing view, Dr. Plager said that surgeons use adjustable sutures because they think they improve surgical success rates, but there are no randomized controlled clinical studies that prove it.

“How much does it reduce the reoperation rate? There are no randomized controlled trials,” Dr. Plager said.

He also noted that when adjustable sutures were introduced in 1975, strabismus surgery was a three-day hospital stay. Today, it’s an outpatient procedure with an average total OR stay of just two hours, 18 minutes.

“Patients don’t like it, it’s uncomfortable. They have to stay all day and wait for the adjustment to happen. It’s more time for the surgeon, it’s more expensive and there’s no evidence of a reduced reoperation rate,” he said.

“Do them if you want to,” Dr. Plager said. “But don’t feel bad if you don’t.”

*Drs. Guyton and Plager report no financial interests.*
**SEEING SOLID: Realistic Depth Discerned in Single Images**

JOHN I. SMITH, S. B., Mechanical Engineering

*C3D LAB, PO Box 151, Union Bridge, Maryland 21791-0151. Tel: 410-775-0520*

**INTRODUCTION**

Clear photographs, video and some artwork, contain significant three-dimensional information that can be perceived using techniques described here. All images of whatever age can be examined in this fashion. It is believed that substantial cultural import attaches - given the quantity of images society possesses.

Two-dimensional images are seen as flat when viewed by both eyes. The stereopsis provided by binocular vision rules absolutely and insists that the page and everything on it is flat. When stereopsis is disabled, several subtle indicators of depth in the image become noticeable. In the literature on vision these depth data have been called “psychological” cues to distinguish them from the “physiological cues, which are physical or biological in character.

The simplest way to suspend binocular vision is by covering or closing one of the eyes. A quick look at some of the appended images is suggested. Be sure that you are seeing the image clearly and sharply at normal reading distance (15 inches). Adults may require reading glasses or the solidification of the image comes as a pleasant surprise. Please experiment by opening and closing the second eye several times to verify the effect.

**APPLICATIONS & OPPORTUNITIES**

For a more complete exploration of the single eye technique, a set of magnifiers is required. Photographic closeup lenses are available in plus 1, 2, 3 and 4 diopters ratings which provide comfortable viewing at ranges of 40, 20, 13 and 10 inches respectively. Magnifiers called 2X and 2.5X are available in sewing and craft stores. These enable viewing at distances of 5 and 4 inches respectively. These matters are summarized in the Table below.

The photographic closeup lenses are easily threaded together to form a combination that has a diopter rating equal to their sum. Thus, a 4 diopter coupled to a 3 diopter coupled to a 2 diopter forms a 9 diopter combination. The strongest lens should be placed closest to the eye, but it will be found that the clarity is superb for visual purposes.

It should be noted that solid seeing

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**Table : Magnifier Terminology**

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lower lens of bifocals. The deep image is recognized promptly using this viewing method, no more than a few seconds being required. The techniques can be used with pictures of all sizes if suitable magnifiers are used. Even a driver’s license photo will respond to a 5X or 20 diopter
magnifier. At the other extreme are realistically rendered wall murals and contemporary 6 foot wide high definition television receivers. Stereopsis is ineffective at ranges greater than about 15 feet so that there is no need to close the second eye. What is meant here is that still images can be seen solid. Television frequently exhibits lateral motion of the camera versus the subject, and thus the powerful depth perception due to motion parallax sweeps the more subtle clues away. But when the subject is stationary, it can be perceived as solid also.

In an image with a lot of detail, such as the Falling Water pictures in the appendix, one should progressively “zoom in” on parts of the image by using magnifiers of shorter and shorter focal lengths. It will be seen that an impressive amount of three dimensional detail resides in images which is missed in conventional inspection. This process can be carried down to the level where pixels or grains are seen.

A quick guide to the focal length of a suitable magnifier is the sum of the dimensions of the image. For example a 6 by 4 inch print should be viewed with a 10 inch magnifier. One can then literally focus in on details as described above.

DEFEATING STEREOPSIS

Note: All that is written here is known to apply only to those with normal binocular depth perception. (About 90% of the population.) Those who do not see stereoptically, or who have other vision characteristics, have not been studied.

The plane-to-solid change in perceived image geometry occurs after stereopsis is made ineffective. Four techniques are so far known: 1) Occluding one eye; 2) Viewing from a distance a large image such as a high definition video screen; 3) Binocular vision through a magnifier large enough to accommodate both eyes; 4) Use of a prism over one eye with the second eye open. The last three binocular methods depend on parallel lines of sight at the viewer’s eyes.

In all cases, the arrangement should be such that the image occupies about 75% of the subjects’ visual field.

Interestingly, methods 3 and 4 do not defeat stereo-optic perception of solid objects, but do suspend the impression that the picture is flat and thus allow the image to be seen in depth. They do that by optically shifting the image so that it is directly in front of each of the viewer’s eyes. That is to say that they produce parallel lines of sight at both eyes (a condition called zero convergence). The eye-brain is confronted with a clear image such as would be produced by a very large subject very far away, and is constructively mislead.

THE OPERATIVE IMAGE PROPERTIES

Photographic images typically have a depth of sharp focus many times that of the human eye. The very limited depth of focus of the eye can be easily experienced by looking past furniture at other objects in the room. The quick gaze redirection and automatic focal accommodation of the visual system make substantial depth of focus unnecessary. Within the wide range of sharp focus contained in a clear image a number of types of depth information have been identified:

1. Apparent size of familiar objects.
2. Perspective, the convergence of receding lines with distance.
3. Overlapping of distant objects by closer ones.
4. Highlights, shades and shadows revealing the direction, character, and strength of light sources.
5. Texture gradient in rough surfaces - a kind of small-scale perspective.
6. A real perspective - the haze and blueness produced by the atmosphere on distant objects.

The above are the “psychological cues” of depth perception theory. It should be noted that by a recent estimate about one trillion neurons, the
majority of them in the visual cortex, are available to process this information into a coherent perception of depth in a single still image.

For completeness, there are the “physiological cues”:

1. Stereopsis. The retinal images of space eyes are slightly but tellingly different.

2. Motion parallax. Lateral relative motion of eye and subject is vividly depth revealing. Try closing one eye when looking out the side of a moving vehicle. The scenery is seen in satisfying depth until the vehicle stops. This is the method used by non-stereoptikers; they move their heads sideways to solve depth perception problems.

3. Accommodation. The brain is aware of the tension in the muscle focusing the eyes, and thereby of the distance to the point of fixation.

4. Convergence. The muscles controlling the eyes laterally tell the brain by triangulation how far away is the fixated point.

These types of sensory evidence are potentially harmful to seeing solid images. Stereopsis is promptly disruptive when the second eye is opened or uncovered during the on eye technique. It would seem that #2, the second most powerful depth cue, might spoil the game whenever there is relative motion. Experiment shows that it is powerless to do so. Item #3 turns out to be simply irrelevant in the image viewing situation.

Item #4, convergence, is in fact the key to all of the two eye techniques: distance, magnifier and prism. When the convergence is constrained to be zero, the parallel lining-of-sight condition, the solid image is seen with both eyes. It has been shown experimentally that when the convergence is gradually weakened until it is destroyed. Thus one of physiological cues is control of another, convergence controlling stereopsis. (This modulation of stereopsis by convergence is the reason why closeup stereo pictures must be taken with reduced interlens spacing to avoid hyperstereo when projected., The brain has a mechanism for de-emphasizing the stereoscopic effect when significant convergence indicates closeup seeing.)

It should be understood that, for all its dominance, stereopsis loses its power with distance because the interocular spacing is a meager 2.5 inches. Thus even in real-world observation the physiological data come to dominate at ranges exceeding about 15 feet. In this way the interpretive tools for determine depth from subtle cues are already active in the brain.

[When stereoscopic vision at great distances is needed, it is done by a binocular instrument such as an artillery mans’ binocular, where an effective interocular spread of several feet is provided.]

CONCLUSION

Nature pictures, for example the Eliot Porter color work in “Birds of North America’, respond nicely to solid-seeing technique. The creatures are seen distinct from the surrounding branches because the viewing method penetrates their very effective camouflage coloration, enabling one to distinguish the plumage from the foliage (so to speak). Picture books of insects and gems, for instance, respond to this technique of examination, as do images in technical and medical manuals and scientific treatises.

This new methodology of seeing may open new vistas for all who use and enjoy images.

On the following page is a picture, which is an example of the type of scene for which this technique can be experienced. More such pictures are in the appendix-supplement of the electronic website issue of BV&SQ.

(John Smith is the author of Modern Operational Circuit Design, Wylie 1970. He received his degree from MIT.)
Guest Editorial: The Medicare Fee Schedule Was Not Evolved to be a Basis for Pediatric Medical Care

JAMES L. MIMS, III, M.D.

Atul Gawande MD is a staff writer for The New Yorker, an oncologic surgeon and associate professor at Harvard Medical School and the Harvard School of Public Health. He began his career as an assistant health policy advisor to Bill and Hillary Clinton, working out of their Little Rock, Arkansas, campaign headquarters. In his best-selling book “Better” he praises the research that went into the RBRVS (Resource Based Relative Value Scale) in glowing terms (p116), that incorrectly implies that the research was thorough and comprehensive. It wasn’t. Gross errors included the incorrect assumption that general surgeons worked the same 40-hour work week as internists. In the research used to assign values in the RBRVS, Hsiao, the Harvard economist who devised RBRVS, studied only 7% of the 7000 CPT procedure codes!

One early and devastating critique was that of Laurence F. McMahon, Jr., MD, MPH (McMahon LF. A critique of the Harvard Resource-Based Relative Value Scale. Am J Pub Health 1990;793-798.) McMahon pointed out that "the Harvard group surveyed too few cases to cover the range of clinical practice in a specialty, had too little input in the selection of cases that were judged to be the same or equivalent between specialties, and used an unproven extrapolation methodology to assign final values for total work to non-surveyed physician services.” It is this last characteristic that has the potential for devastating all pediatric specialty care for children on Medicaid.

Sensibly enough, Hsiao and Harvard colleagues, limited as they were in time and resources, avoided procedures rarely used in patients over age 65 years ("Seniors"). Many of these are of critical importance for children, such as obstetrics and neonatology. One extreme example in my own specialty of Pediatric Ophthalmology is strabismus (surgical treatment for crossed eyes). Strabismus surgery is needed and desired by only one in 10,000 Seniors and yet is so important for 2% of children that if they are denied this care their lifetime income loss has been reasonably estimated at 1.4 million dollars. Strabismus surgery under the Medicare fee schedule is reimbursed at 1/3 of market rates. Anesthesiologists, who are obviously essential for virtually all surgeries in children, are reimbursed by Medicare at 20% of market rates paid by private insurance companies. Medicaid pays even less than Medicare in most states. Obviously, physicians caring for patients on Medicaid are cost-shifting to their private patients. Once physicians in private practice are paid less under the Public Option based on something similar to the Medicare fee schedule, they will stop accepting children on Medicaid.

Honest scholars that they were, Hsiao and colleagues proposed extending their studies to more procedures in more specialties (Becker ER, Dunn D, Braun P, Hsiao WC. Refinement and expansion of the Harvard Resource-Based Relative Value Scale; The Second Phase. Am J Pub Health 1990;799-803.) Sadly, most of these additional studies were never funded. Other serious critical studies of RBRVS were never heeded. (Maloney JV. A rational process for the reform of the physician payment system. Ann Surgery 1995;134-145.) There are now 14% fewer general surgeons per capita in the U.S. than there were in 1995. As private insurers began to adopt RBRVS (Dove H.G. Use of the resource-based relative value scale for private insurers. Health Aff 1994:1930201.), several pediatric specialties realized that they were going to have to negotiate independent of the RBRVS-based Medicare fee schedule. (Seguin JH, Claflin KS, Topper WH. Impact of RBRVS on reimbursements to neonatologists. J Perinatol 1993;217-222, and Garson A Jr, Wolk MJ, Morrin SB, Gold W, Dickstein M, Dobson A. Resource-based relative value scale for children: comparison of pediatric and adult cardiology work values. Cardiol Young. 1995;5(3):210–216.)

For pediatric specialists and obstetricians to be able to accept the Public Option, local negotiations in every
Metropolitan Service Area will be essential. Any Public Option linked to the Medicare Fee Schedule is doomed to failure, because it will provide no surgical specialty care for children, no neonatology, and no obstetrics.

A Necessary Amendment to HR3962 in Regard to the Public Option

Division A, Title III, Subtitle B, Page 217 of HR3962 mandates that the Secretary of Health and Human Services shall negotiate payments to physicians and hospitals "in a manner that results in payment rates that are not lower, in the aggregate, than rates under title XVIII of the Social Security Act, and not higher, in the aggregate, than the average rates paid by other QHBP [Qualified Health Benefit Plans] offering entities for services and health care providers." This wording seems to ensure that the rates of payments to physicians for procedures (specific CPT codes) will be at the low end of the range, with no consideration for the additional time and risk required to perform pediatric surgeries. Indeed, Section 223 of HR 3200, the main predecessor to HR3962, specified 105% of Medicare for the first three years with an implied reversion to 100% of Medicare after that.

The initial work on RBRVS was only on 7% of the CPT codes, with concentration on those of greatest value to seniors. The other codes were merely approximations. Although relative cost was estimated, the true cost to the provider was never studied for any CPT codes. When (now) CMS arbitrarily assigned a conversion factor in 1992, professor Hsiao, the Harvard economics professor who had attempted to validate RV RVS as only a relative value scale, publicly repudiated the process. Over the subsequent years, various committees from the national specialty organizations attempted to advise MedPAC (Medicare Physicians Advisory Committee). There was always only a fixed amount of money; MedPAC would substantially reduce payments for codes of little value to seniors to fund the codes for procedures of more value to seniors. Many of these procedures for which the Medicare fees were drastically reduced are essential for the care of children. The fees for pediatric procedures, including pediatric surgeries and pediatric anesthesia, obstetrics, and neonatology were eventually reduced to as little as 20% of the 1988 values. The problem for pediatric care is that most of the private insurance companies (and now the Public Option as well) have routinely tried to offer allowables that are a low multiple of the general Medicare fee schedule (like 105%). To survive, large pediatric specialty groups (including obstetrics) as well as solo pediatric specialists have negotiated independent of the Medicare fee schedule since the early 1990's. Common and reasonable allowables for some pediatric procedures and anesthesia are 500% of the severely devalued Medicare rates. For the Public Option to work, the following amendment is essential:

It is recognized that the Medicare fee schedule for physicians' services has evolved to pay for services and procedures commonly needed for citizens over 65 years old on Medicare and is not an adequate basis for payments for procedures commonly needed for children but rarely needed for older adults. It is recognized that most physicians caring for children on Medicaid are able to provide care for children on Medicaid only because these physicians subsidize the care for children on Medicaid with fees received from the private sector. To prevent disruption of health care for children of all socioeconomic levels, the Public Option will offer allowables for pediatric services and procedures negotiated with provider physicians at local market levels for each Metropolitan Service Area, without regard to local Medicaid or Medicare fee schedules. It is anticipated this will enable physicians to continue to care for children of all socioeconomic levels.
Editor-in-Chief’s Note on Guest Editorial:

Dr. Mims original editorial received was based on HR3200, but a day later, the -1900 page Pelosi-Care bill HR 3962 was announced and published. After applying some real sleuthing to get a copy of it, Dr. Mims revised his editorial, p.216. He said he found HR 3962 even more confusing.

The very next morning the lead editorial "Review and Outlook" in the Wall Street Journal was titled “The Worst Bill Ever” and subtitled “Epic new spending and taxes, pricier insurance, rationed care, dishonest accounting: The Pelosi health bill has it all”. It concluded “...Mrs. Pelosi’s handiwork ranks with the Smoot-Hawley tariff and FDR’s National Industrial Recovery Act as... the worst bills Congress has ever seriously contemplated.

Obama has not resisted the relabeling of his crusade as “Pelosi-Care. As I write this early Saturday morning November 7th, we await the House vote on it. To get more votes, they are being told to “vote for it anyway” “because it will be changed as necessary - just TRUST US....” Even the AMA is considering reversing the support it gave Obama two days ago because now Obama is coping out on the “Doc Fix” part of the quid pro quo agreement with the AMA as he has with his agreements with everybody else to date, the pharmaceutical companies, the insurance companies, everybody! You could do better dealing the DEVIL himself, I think. “Caveat Emptor” but we are not “emptors” anymore. Doctors or patients 3962 makes us all peons, peasants, or slaves, and valued something well below "government employee”. Which we are NOT. now, at best. Unless you are a member of the ruling class: a lawyer or a politician.... of course, soon to be extended to include all government employees.

Going back a couple of millenia, it is my understanding that a major change in civilization that Christ wrought was his concept that illnesses were not always punishment for wrongdoing or evil spirits or thought. Then, all sick people were therefore bad and shunned. That was the universal attitude before then. Christ comforted and sympathized and helped the sick. Before then, no one had. Most of the world has followed Christ in this manner since then. Lawyers never “got it”.

It seems we are going back to B.C. How else can we explain the “health care reform” all out WAR against evil doctors, medical care and the entire medical business. Isn’t it time for a health care Revolt instead of “reform”? How did the AMA ever agree to this Medicare arrangement where the government can decide just how little it wants to pay for the care of the elderly?... WE made a deal with the DEVIL: In 1965 our government offered to pay for private full fee for service system for the elderly. Ever since, congress has cut and cut and cut reimbursement as the aged population grew and medicine got better and better but also more expensive. The government as usual turned out to be a vicious devil and that is who we sold our profession to ...it was just too fat a deal in 1965. I remember my father who was then in practice remarking how much better off we were. Everybody paid.

But now, look at this recent bill (Next page) for an MRI I just underwent for my spinal stenosis sciatica. Medicare paid a mere 7 % of the bill. If my wife needs one, coughing up over $5000 for it will not be easy. Just two years until she is on Medicare. We both had colonoscopies a couple of years ago. We paid $2000 for hers, while Medicare paid only $350 for mine, only 17% of the charge.

We (all of medicine) are already in a forced mandated near 100% pro bono world, and Pelosi-Obama care is going to make that worse, as if that weren’t possible! -per
BE INFORMED: Always review your Medicare Summary Notice for correct information about the items or services you received.

This is a summary of claims processed on 10/05/2009.

## PART B MEDICAL INSURANCE - OUTPATIENT FACILITY CLAIMS

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</table>

**Notes Section:**

- a The amount Medicare paid the provider for this claim is $350.34.
- b Payment is included in another service received on the same day.

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**THIS IS NOT A BILL - Keep this notice for your records.**
EDITORIAL: Impairment of a Normal Eye by a Bad Eye thru Binocular Vision; Improvements in Strabismus Surgery; Moral Hazard; an Elected and Immune Villain.

IN THIS ISSUE


This is the first time we have had what can be called an actual picture of binocular vision (occurring in the brain) to publish in our pages. (More, please....)

? Is there any other manifestation of this situation other than loss of stereoscopic depth perception? It is possible that the deficiency of stimulation they demonstrate might be more drastic than just that? How about other parameters of vision in the good eye, like color vision or contrast sensitivity. They may also be impaired in addition to the impairment they recorded.

And is there a time element here? If you fail to have successful treatment of your amblyopia and strabismus, in adulthood, may you have less than best normal monocular and binocular vision for the rest of your life?

If so, even more aggressive treatment of disorders of binocular vision might be indicated and appreciated...

Your editor suffered a parallel problem although not in the visual sphere. In ROTC camp in college he got just a hair too forward alongside the muzzle of the rifle of a fellow student whose rifle shooting technique he was monitoring. Just one short session made me permanently somewhat acoustic nerve trauma deaf for the rest of my life in my right ear, which was exposed to the muzzle.

I didn’t need a hearing aid - my other ear was fine- or so I thought until at age 50 I saw a hearing specialist because I was having trouble understanding people when there was background noise. He fitted me with an expensive high quality aid for my half deaf right ear, and my problem disappeared. This is similar to the Shokida vision situation because the poor hearing in my right ear was interfering with my ability to hear with my normal left ear. Hearing specialists are well aware of this hearing problem.

It appears that the same thing can happen with the eyes and vision. The bad side impairs the normal side through bilaterality coordinating brain mechanisms.


Dr. Mims has been working terribly hard all his professional life to elucidate and explain just how our eye muscle surgery works and he is still making significant progress as you can see and appreciate and apply, from this paper.

Don’t err, as I did initially, and mistake The new numbers he presents as total amounts of recession to be done. Those numbers are rather what he has calculated as
the amount of each respective recession necessary to compensate for muscle contracture prior to surgery - which is the foundation for his new observations and important recommendations, which are most useful (hints: Patch! Measure ET at least twice including the day before surgery before you cut not once but twice (both medials)....

**Cul-de-Sac Incision for Strabismus Surgery in Older Patients.** Coats DK. *Binocul Vis Strabismus Q* 2009; 24:233-235.

Not only can the author survive and finish terribly well in a 100 mile run in 24 hours the first time he ever tried it, (see page 204) he can advance our eye muscle surgery techniques for our semi seniors and seniors, obviously anticipating the generosity of Pelosi-Obama Care. More good advice.

**Seeing Solid. Realistic Depth Discerned in Single Images.** Smith JI. *Binocul Vis Strabismus Q* 2009; 24:212-215

Smith is a stereographer. We suggest he extend his study to obtain hard evidence that a subject was actually having some sort of cortical binocular stereoscopic vision in the monocular distance condition he proposes.

Perhaps one could do functional MRIs of subjects experiencing true stereoscopic binocular vision as baseline- and then using his monocular viewing situations???

We searched PubMed for such and found.... Topographical Representation of Binocular Depth in the Human Visual Cortex Using fMRI. *J Vis*2007; Dec 17; 7(14):15.1-14., (see abstracts our pages 236- for full abstract). Volunteers?

**Moral HAZARD.**

You couldn’t have missed our government instigated and sponsored and continuing Housing->Banker crisis of the past two years. You have heard worry about the moral hazard of saving the bankers buns just to prevent a catastrophic depression igniting run on the banks. We did it anyway. But now we have hope: we will soon be able to use MRIs to check the morals of people we ?might? save!:

**VILLAIN # 1: Our and Your Congressman Barney FRANK:** (& we’re not homophobic)
Is One Eye Better Than Two In Strabismus?  
Or Does the Misaligned Amblyopic Eye 
Interfere with Binocular Vision?  
A Preliminary Functional MRI Study 

FELISA SHOKIDA, M.D., MARTIN ELETA, M.D., 
MARIANO SIDELNIK, M.D. and JOSÉ GABRIEL, M.D. 

from the Department of Ophthalmology, Hospital Italiano, Buenos Aires, Argentina 

ABSTRACT: Purpose: The aim of this study was to determine if patients with strabismic amblyopia could have increased occipital visual cortex activation with monocular stimulation of the sound fixing eye, rather than with simultaneous stimulation of both eyes. 

Methods: A prospective study was performed including 12 patients with strabismus and amblyopia, who were evaluated using functional MRI with visual stimulation paradigms. The measurements were made in the occipital visual cortex, assessing the response to binocular and monocular stimulation. 

Results: 12 out of 12 patients showed an increased cortical response of the healthy eye in comparison to the amblyopic one. Nine of the 12 patients showed larger cortical activation with visual stimulation of the healthy eye compared to the binocular condition analysis. Three out of the 12 cases had a greater activation area when the stimulation was binocular rather than monocular, 2 of whom had a relatively small angle of strabismus. 

Conclusion: Patients with amblyopia and strabismus could see better with only one eye instead of both eyes. This could be related to inhibition of the binocular function of the brain by the misaligned amblyopic eye.

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Acknowledgment: The authors thank Paula Hokama and Patricia Adduci for assistance in the English translation.

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INTRODUCTION

Amblyopia is defined as having less than normal visual acuity as a consequence of interrupted development of the optic pathway during the period of sensorial plasticity.

The amblyopia could result from unequal visual stimuli between both eyes, due to refractive errors or to strabismus.

We observed that some patients with strabismus and amblyopia were more comfortable using only the normal fixing eye instead of both eyes.

This observation induced us to study the visual cortex using functional MRI in patients with strabismus and amblyopia by analyzing the visual cortex when the dominant eye is fixing, when the amblyopic eye is fixing, and both eyes comparatively.

AIM

The aim of this study was to determine if patients with strabismic amblyopia could have increased occipital visual cortex activation with monocular stimulation of the sound fixing eye, rather than with simultaneous stimulation of both eyes.

SUBJECTS & METHODS

A prospective study was performed in 12 patients, 6 women and 6 men. The mean age was 44, ranging from 15 to 60 years old.

Inclusion criteria were patients with strabismus and amblyopia, with a visual acuity difference of one line or more.

Exclusion criteria were patients with non strabismic amblyopia, with neurological disorders, or patients with contraindication for MRI studies. There were originally 16 patients, but four of them had to be excluded because the images taken were not trustworthy due to involuntary movements, lack of visual attention, or claustrophobia.

The ophthalmologic evaluation for all patients included visual acuity, stereopsis (Lang and T.N.O. test), ocular motility, contrast sensitivity, ocular pressure, refraction, ocular fundus, and visual field (Octopus 123).

To rule out structural neurological pathologies, all patients underwent brain MRI using the BOLD program (blood oxygen level dependent).

Brain MRIs were performed with a Philips Intera Master 1.5 Tesla. The patients were studied in supine position, and a brain coil of 6 channels was used.

A sagittal localizer and T1 IR (Inversion Recovery) were used to perform 22 cuts of 5 mm according to the encephalic volume, with a gap of 0.5 mm, FOV 230 mm, matrix 304, TR 4590 TE 100 ms, and perpendicular to the calcarine fissure. The sequence lasted 2’ 49’’. The visual stimuli produced by a computer showed black and white vertical stripes, with a spatial frequency of 0.5, 1 and 1.5 cycles per second.

The studies were performed in the following sequence: the right eye occluded, the left eye occluded, and both eyes uncovered.

Exposure time was 15 seconds of alternate periods with and without stimuli. This sequence was repeated 6 times for each paradigm.

The data was analyzed in a Philips
View Forum work station (software version R4.1V1L2) with the BOLD program. The activated voxels in the calcarine and occipital area were studied, using the same parameters for each paradigm in all the patients.

RESULTS

In twelve out of the twelve patients included in this study, the cortical activated area when using the sound fixing eye was larger than when using the amblyopic eye. In nine out of the twelve patients, the activated area in the visual occipital cortex was larger with monocular stimulation of the sound fixing eye, than with simultaneous stimulation of both eyes. This group showed more than 30 activated voxels when the sound fixing eye was stimulated. See Figure 1, below.

On the other hand, three out of the twelve patients presented a larger activated area with binocular stimulation than with monocular stimulation of the fixing eye. However this group showed less than 15 activated voxels, and two out of these three patients had a small angle of strabismus of 8 Pd and 15 Pd, and the last a 37 Pd esotropia. The activated area in the sound fixing eye was arbitrarily taken as 100% activation.

Figure 1 (Shokida): MRI cortical activation with binocular fixing, amblyopic eye fixing and sound eye fixing.
STATISTICAL ANALYSIS

In the group of nine patients the stimulation of the amblyopic eye showed an average of 34.4% +/- 5.6% compared to the sound eye, with minimum and maximum values of 9.3% and 60.6% respectively. The mean difference between the sound eye and the amblyopic eye was 66.6%, (p<0.01).

Both eyes stimulation showed a mean cortical activation of 45% +/- 7.6%, with minimum and maximum values of 3.7% and 75.8%. The mean difference between both eyes stimulation and the stimulation of the sound eye was 55% (p<0.01).

The cortical activation difference between the amblyopic eye and the sound fixing eye was 60.6% and the difference between both eyes and the sound eye was 55%. The difference between both groups was not statistically significant (p greater than 0.05) See Figure 2. Below.

Figure 2 (Shokida)
The group of three patients who showed less activated cortical area with monocular stimulation of the sound fixing eye than binocular stimulation showed an average of 73% +/- 5.3%. This meant more than twice the activity compared to the sound eye in the other group. The mean values were 46.2%, 80% and 92.6%. In these three patients, the activated cortical area with both eyes fixing showed values of 253.8%, 106%, and 607%.

Different from the larger group of patients, both eyes stimulation showed more cortical activity compared to the sound eye stimulation. See Figure 3 below.

**DISCUSSION**

Previous functional MRI and PET scan reports have shown less blood flow and reduced metabolism in the visual cortex of the amblyopic eye. (1-7)

In our study, we compared the activity in the occipital visual cortex when patients with strabismus used both eyes or just one.

In a healthy patient, the simultaneous stimulation of both eyes shows a larger activation of the cortical occipital cortex than when each eye is stimulated separately. However, in patients with strabismus the opposite result was seen.

*Figure 3 (Shokida)*
In 75% of the patients with strabismic amblyopia we found that monocular stimulation of the sound eye showed a larger activation in the occipital cortical area, compared to the simultaneous stimulation of both eyes.

We also noted that two of the three patients with better results with binocular rather than monocular stimulation had a deviation of less than 15 pd, and that the TNO stereo test showed simultaneous vision instead of suppression as seen in the group of nine patients. A bigger sample would be necessary to make these results valid.

**CONCLUSION**

Some patients with strabismus and amblyopia could see better with one eye rather than with two, as reflected by the lower response in the occipital cortex to the stimulation of both eyes compared to the monocular stimulation of the sound fixing eye.

Further studies could explore how an amblyopic eye hinders the binocular vision by analyzing the inhibition phenomenon of the amblyopic eye at the brain level.

**REFERENCES**


4. Goodyear BG, Nicolle DA, Menon RS. High resolution fMRI of ocular dominance columns within the visual cortex of human amblyopia. *Strabismus* 2002; 10(2):129-36


Further Implications of Probable Changes in Medial Rectus Muscle Innervation after Surgery for Infantile Esotropia.

JAMES L. MIMS, III, M.D.

from the University of Texas Health Science Center, and Methodist Children’s Hospital, San Antonio, Texas

ABSTRACT:  **Introduction:** The conclusion that setting the eyes of an infantile esotrope (ET) straight with a successful bilateral medial rectus muscle recession (MROU) reduces the preoperative hyperinnervation of these muscles almost to normal may have special implications for best principles of management of infantile ET not detailed in a recent paper by Mims, III, Miller & Schoolfield (1).

**Methods:** The same 113 infantile esotropes who provided data for the exoshift under anesthesia study had previously provided data for a dose-response curve. (2). A simple geometric calculation was done to determine the amount of medial rectus (MR) recession necessary to compensate for contracture, and this was subtracted from the dose-response value to reveal the additional mm of recession required to put the MR sufficiently down the length-tension curve to compensate for the preop’ MR hyperinnervation.

**Results:** The result of these calculations yielded a surprisingly narrow range averaging 3.6 mm (range 3.2 to 3.8 mm) for a broad range of pre-op deviations (20 ET to 80 ET).

**Conclusions:** The conclusions which may be drawn from this analysis include an understanding of why infantile (and other) esotropias tend to increase in size in a few weeks or months if untreated, verification of the wisdom of the common practice of measuring the deviation no more than a day or two prior to the surgery, and the common observation that unilateral medial rectus recessions of a given amount will generally produce significantly less than half of the effect of a similarly-sized bilateral medial rectus recession. Finally, this understanding explains the poor success rate of surgery in the presence of dense amblyopia with eccentric fixation.
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INTRODUCTION

The conclusion that setting the eyes of an infantile esotrope (ET) straight with a successful bilateral medial rectus recession (MROU) reduces the preoperative hyperinnervation of the medial rectus muscles almost to normal may have special implications for best principles of management of infantile esotropia not detailed in a recent paper by Mims III, Miller & Schoolfield (1).

These implications include an understanding of why infantile (and other) esotropias tend to increase in size in a few weeks or months if untreated, verification of the wisdom of the common practice of measuring the deviation no more than a day or two prior to the surgery, and the common observation that unilateral medial rectus recessions of a given amount will generally produce significantly less than half of the effect of a similarly-sized bilateral medial rectus recession. Finally, this understanding explains the poor success rate of surgery in the presence of dense amblyopia with eccentric fixation.

METHODS

For simplicity in calculations the infantile eye globe was assumed to be 72 mm in circumference (2,3) 360 degrees divided by 72 mm yields 5 degrees per mm. Five degrees would be ten prism diopters of deviation (4). [This paper has a nice graph depicting the fact that from 5 to 40 degrees, the ratio of prism diopters to degrees is almost exactly 2, in spite of the fact that the definition of prism diopters - the displacement of an image projected to one meter in centimeters - is a trigonometric function which eventually gets exponential outside the range of clinical possibility] This meant that walking along the circumference of this globe would yield 10 prism diopters per mm.

RESULTS

Consider the following Table, top, next page, typical of those used by most strabismus surgeons (2,9) to quantitate bilateral medial rectus recessions. Note that the geometric amount required to straighten the eyes is one-half of the deviation, because both medial rectus muscles are recessed. Thus, a 50 ET requires 25 prism diopters of rotation of each eye which would be 2.5 mm:
**TABLE**  Typical Surgical Dose-Response Relation for
Bilateral Medical Rectus Muscle Recession for Esotropic Strabismus (2)

<table>
<thead>
<tr>
<th>Deviation</th>
<th>Geometric plus mm Down LT Curve equals mm recession</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 ET</td>
<td>0.75 mm 2.75 mm 3.5 mm</td>
</tr>
<tr>
<td>20 ET</td>
<td>1.0 mm 3.2 mm 4.2 mm</td>
</tr>
<tr>
<td>30 ET</td>
<td>1.5 mm 3.6 mm 5.1 mm</td>
</tr>
<tr>
<td>40 ET</td>
<td>2.0 mm 3.8 mm 5.8 mm</td>
</tr>
<tr>
<td>50 ET</td>
<td>2.5 mm 3.8 mm 6.3 mm</td>
</tr>
<tr>
<td>60 ET</td>
<td>3.0 mm 3.7 mm 6.7 mm</td>
</tr>
<tr>
<td>70 ET</td>
<td>3.5 mm 3.6 mm 7.1 mm</td>
</tr>
<tr>
<td>80 ET</td>
<td>4.0 mm 3.4 mm 7.4 mm</td>
</tr>
</tbody>
</table>

**CONCLUSIONS**

**Why Infantile (and other) Esotropias**  Tend to Increase in Size over Time if Untreated

It is so generally recognized that infantile esotropia will increase over time if left untreated, that several surgeon-authors have studied whether waiting for the increase to stabilize will increase the surgical success rate. (5-8) [It doesn't.]

Does this trend towards larger deviations over time (which this author has also observed many times in acquired esotropia) indicate a progressively larger amount of hyperinnervation to the medial rectus muscles, or could it merely be increasing contracture of the medial rectus muscles with a relatively constant level of hyperinnervation over time?

In the above Table, the "Geometric" column corresponds to the degree of contracture of the medial rectus muscles. The Table suggests that for a broad range of deviations 20 ET to 80 ET, the amount you have to "put the MR down the length-tension curve to neutralize the preop' hyperinnervation" is remarkably constant from 20 ET to 80 ET, averaging 3.6 mm and ranging in this table from 3.2 mm to 3.8 mm. This strongly suggests that the degree of hyperinnervation is not really that much different for this broad range of deviations, and for the infantile esotrope with a progressively larger deviation, the progressively larger size of the deviation is
mainly due to the increased contracture of the medial rectus at the larger size of deviation. Remember that a muscle assumes a length typical of its average length in a typical day regardless of its level of innervation. Thus, the infant with a constant 20 ET will initially have medial rectus muscles that are too long for an esotropia and will bring the eyes into an esodeviation position mainly according the level of hyperinnervation. Once the child has been ET for a while, however, the medial rectus muscles get contractured (shortened) and are then more efficient at generating a pulling force for their new length at the previous (and probably constant) level of hyperinnervation. Below 40 ET the mm required to neutralize the excess hyperinnervation of the medial rectus muscles by putting them down the length-tension curve appears to decrease as the angles of esotropia get smaller. This is probably due to the fact that we regard anything less than a residual of 9 ET as a "success", or a "monofixational cure", and so for smaller angles you need less effect to produce a "cure." Above 50 ET the mm required to neutralize the excess hyperinnervation of the medial rectus muscles also appears to decrease, due to the increasing effect of reducing the torque vector for recessions above 6 mm (10).

Why The Best Day to Determine the Size of the Angle in Infantile (and other) Esotropias for Surgical Planning is the Day Prior to the Surgery

Since, following the above logic, the most variable part of what you are doing is relieving the increasing contracture of the medial rectus muscles, you need to measure this contracture just prior to surgery, because in a few days it may change (increase).

Why Unilateral Medial Rectus Recessions Produce Less than Half of the Effect of Bilateral Medial Rectus Recessions of the Same Size

Every experienced surgeon knows that a unilateral 5 mm MR recession will produce a 10 PD reduction in an esotropia at most, and a 6 mm unilateral MR recession will be required for a 15 ET and a 7 mm for a 20 to 25 ET. These unilateral recessions produce less than half the effect of bilateral MR recessions because you are relieving contracture in only one of the medial rectus muscles.

Why Surgery for Esotropia is much more Successful after Some Patching of the Dominant Eye.

At this point, you are ready to figure out the answer for yourself. If one eye is always crossed and the deviation is, say 60 ET, you won't eliminate the contracture of the tight medial rectus AND put it down the LT curve enough to neutralize the hyperinnervation with any recession of the MR of the non-dominant eye less than 6 + 3.5 mm = 9.5 mm, a recession so large that it will inevitably lead to an overcorrection because you are in torque vector zero territory. (10) Thus, one of the big effects of patching is to reduce contracture in the medial rectus attached to the non-dominant eye. And, of course, if the vision in the non-dominant eye is worse than 20/200 as indicated by eccentric fixation, then FUSION won't be available to reduce the hyperinnervation to normal once you have set the eyes straight by the combination of
relieving the MR contracture and putting the MR far enough down the LT curve to neutralize (at least for a few days) the hyperinnervation that made the patient esotropic in the months before they were lucky enough to visit you.

REFERENCES


ABSTRACT: Introduction: A limbal surgical approach for strabismus surgery is often recommended for older patients, in the belief that the conjunctiva of older patients is too thin and prone to tear during surgery performed through a cul-de-sac incision. The purpose of this study was to evaluate the use of the cul-de-sac approach in patients more than 40 years of age.

Methods: This is a retrospective analysis of consecutive patients more than 40 years of age who underwent strabismus surgery using a modified cul-de-sac approach to reduce manipulation of the conjunctiva during surgery.

Results: A total of 32 cul-de-sac incisions were used to operate on 37 muscles in 19 consecutive patients more than 40 years old. The mean age was 58 years (41-77 years) with 8 patients (12 incisions) more than 60 years old. Absorbable sutures were used to close 28 of the incisions, with 19 incisions requiring 1 suture, 7 requiring 2 sutures, and 2 incisions in 2 patients requiring more than 2 sutures. Tears resulting in extension of the conjunctival incision occurred in several patients, but no other complications were encountered. One week following surgery, 28 (87.5%) of the incisions were well closed, while a small opening was noted with 4 (12.5%) of the incisions, but none required further intervention, and all healed well.

Conclusion: Strabismus surgery can be performed through a cul-de-sac incision in older patients. Slight modifications of the surgical technique to prevent excessive manipulation of the incision and to reduce the risk of tearing the conjunctiva are helpful. The cul-de-sac approach offers some important potential advantages to older patients undergoing strabismus surgery.

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INTRODUCTION

Strabismus surgery performed through a cul-de-sac incision was popularized by Parks(1) enjoys wide acceptance. Common teaching often recommends against use of a cul-de-sac incision when performing strabismus surgery on older patients. A limbal surgical approach is typically recommended for older patients in the belief that the conjunctiva of older patients is too thin and prone to tear during surgery performed through a cul-de-sac incision (2). Avoidance of the cul-de-sac approach deprives older patients of some significant potential surgical advantages including shorter operative time, improved appearance in the immediate postoperative period (3,4), improved comfort, and less disruption of the limbal conjunctiva. The purpose of this paper is to present a small modification to the cul-de-sac surgical approach that I use to allow its effective application in strabismus surgery on elderly patients, and to review its use for strabismus surgery in patients over 40 years old.

METHODS

The records of consecutive patients greater than 40 years of age who underwent strabismus surgery were reviewed. Data analyzed included location of the incision, muscle(s) operated, use of adjustable sutures, complications, and incision healing at 1 week following surgery.

Technique:

The following is a description of the technique as utilized for a medial rectus muscle recession. The procedure is similar for other rectus muscles and procedures, but with intuitive modifications for each individual muscle. A muscle hook was used to position the eye for surgery, avoiding unnecessary manipulation of the conjunctiva with forceps. An incision was made through the conjunctiva and Tenon’s capsule. The muscle was isolated with a muscle hook and the conjunctiva gently retracted toward the muscle. The muscle was rotated into the conjunctival incision, thus avoiding the need to further stretch the conjunctival incision.

A 0.5 mm curved locking forceps was placed at the upper margin of the muscle insertion before incising the intermuscular septum. The forceps served to identify the upper margin of the insertion, to prevent the conjunctiva from closing back over the insertion, and to prevent excessive manipulation of the conjunctival incision during surgery. The intermuscular septum and muscle capsule were then dissected as needed to allow placement of sutures into the muscle. Absorbable suture was placed into the muscle insertion and a tenotomy performed. The muscle was secured back to the sclera using a conventional approach if no adjustment was planned or a suspension technique if adjustment was planned. If direct access to the insertion was needed postoperatively to make the adjustment, a retraction suture was placed to facilitate postoperative exposure of the insertion. Closure of the conjunctiva with absorbable suture was done as needed at the conclusion of the case. If a conjunctival tear occurred during the case, it was repaired at the conclusion of the case.

RESULTS

A total of 32 cul-de-sac incisions were used to operate on 37 muscles in 19 consecutive patients more than 40 years old. Seven of the patients were males. The mean age was 58 years (41-77 years), with 8 patients (12 incisions) more than 60 years old. Incisions were made in all 4 surgical quadrants with the majority done in the inferior quadrants.

All 6 extraocular muscles were operated. Two muscles were operated through 5 of the cul-de-sac incisions. Six of the cases involved muscle re-operations and adjustable sutures were used on 18 (49%) of the muscles. Four were operated using a pop-through adjustable technique, 10 using a conventional technique, and 4 using a ripcord technique (5). Postoperative adjustment was required on 9 (50%) of 18 of these muscles and was accomplished without complications in
all cases.

Absorbable sutures were used to close 28 of the incisions, with 19 incisions requiring 1 suture, 7 requiring 2 sutures, and 2 incisions in 2 patients requiring more than 2 sutures. A conjunctival tear extending the conjunctival wound over the operated muscle occurred in a 68 year-old. The tear healed and the patient had a good functional and cosmetic outcome. Four incisions developed small tears not requiring repair and no other complications were encountered. One week following surgery, 28 (87.5%) of the incisions were well closed, while a small opening was noted with 4 (12.5%) of the incisions, but none required further intervention, and all healed well.

DISCUSSION

A limbal surgical incision is often recommended for older patients who are undergoing surgery on the extraocular muscles. This recommendation is usually made because the conjunctiva is felt to be too fragile in older patients and prone to tearing during the manipulation required to perform strabismus surgery. The cul-de-sac surgical approach has significant potential advantages including improved comfort and appearance in the immediate postoperative period (3,4), less disruption of the limbal conjunctiva, and faster operative time, and thus a technique that allows its application in older patients is of value.

I have utilized a cul-de-sac incision routinely on patients over 40 years of age and have found that the cul-de-sac approach can be effectively performed on the majority of older patients. Small modifications of the standard surgical technique are required to minimize excessive stretching of the conjunctiva that can produce a conjunctival tear. These modifications include deliberate rotation of the muscle into the conjunctival opening (rather than stretching conjunctival incision over the muscle), placement of a locking forceps on the distal aspect of the insertion as soon as it is exposed, and other maneuvers to minimize manipulation of the conjunctiva. Both primary procedures and re-operations were readily conducted using this approach. The cul-de-sac incision has been well tolerated by patients and excellent closure of the incision was typically noted following surgery. Those patients with a slight wound opening following surgery required no further intervention and healed without problems.

Older patients undergoing strabismus surgery through a cul-de-sac incision were allowed to resume contact lens wear within 1 week, often sooner, and in general, had eyes that looked very good at the 1 week postoperative visit, with subconjunctival hemorrhage being the only obvious sign that the patient had undergone surgery. I have found, in fact, that minimal involvement of the assistant during the procedure reduces the amount of conjunctival manipulation during surgery. Other than a small number of conjunctiva tears that developed during the procedure, no complications were encountered. These disadvantages, in my view, are outweighed by the potential benefits of the cul-de-sac incision for strabismus surgery in this patient population.

In summary, strabismus surgery can be performed through a cul-de-sac incision in older patients. Slight modifications of the surgical technique to prevent excessive manipulation of the incision and to reduce the risk of tearing the conjunctiva are helpful. The cul-de-sac approach offers some important potential advantages to older patients undergoing strabismus surgery.

REFERENCES

Vision / Visual Acuity / Amblyopia

Optic Nerve Size, Globe Shape Don’t Cause Visual Deficit in Amblyopia. Am J Ophthalmol 2009; October. [from the AAOs Academy Express, title and authors not published.]

Researchers used high-resolution magnetic resonance imaging to evaluate 34 amblyopia patients and 60 normal controls in this prospective case control study. They found subnormal optic nerves and abnormal globe shape in both eyes of patients with unilateral amblyopia, but these parameters did not differ significantly between amblyopic and fellow eyes. The authors conclude that optic nerve size and globe shape do not determine which fellow eye becomes amblyopic and don’t directly cause the visual deficit in amblyopia.

Amblyopia Therapy in Children Identified by Photoscreening. Teed RG, Bui CM, Morrison DG, Estes RL, Donahue SP. Ophthalmology 2009, in press. [Authors Conclusions]

The success rate of amblyopia in children identified through our photoscreening program is high. This study supports the role of photoscreening programs in the prevention of amblyopia-related vision loss. Such early screening may translate to true visual acuity improvement. (Dr. Teed, Vanderbilt Eye Center, 2311 Pierce Avenue, Nashville TN 37232-8808)


Unilateral amblyopia is associated with bilateral, but also with subclinically hypoplastic optic nerves, greater than normal axial length/optic nerve, and abnormally noncircular globe cross-section. These factors evidently do not determine which of the 2 eyes will become amblyopic. Reduced circularity of amblyopic and fellow eyes may reflect optical causes of amblyopia or bilateral dysregulation of globe shape secondary to amblyopia. (Dr. Demer, Jules Stein Eye Institute, David Geffen School of Med. at UCLA, 100 Stein Plaza., LA, CA 90024)


We investigated whether fluoxetine, a widely prescribed medication for treatment of depression, restores neuronal plasticity in the adult visual system of the rat. We found that chronic administration of fluoxetine reinstates ocular dominance plasticity in adulthood and promotes the recovery of visual functions in adult amblyopic animals, as tested electrophysiologically and behaviorally. These effects were accompanied by reduced intracortical inhibition and increased expression of brain-deprived neurotrophic factor in the visual cortex. Cortical administration of diazepam prevent3ed the effects induced by fluoxetine, indicating that the reduction of intracortical inhibition promotes visual cortical plasticity in the adult. Our results suggest a potential clinical application for fluoxetine in amblyopia as well as new mechanisms for the therapeutic effects of antidepressants and for the pathophysiology of mood disorders. (Dr. Vetencourt Email: jf.maya@in.cnr.it)


A review of the extant studies makes it clear that practicing a visual task results in a long lasting improvement in performance in an
amblyopic eye. The improvement is generally strongest for the trained eye, task, stimulus and orientation, but appears to have a broader spatial frequency bandwidth than in normal vision. Importantly, practicing on a variety of different tasks and stimuli seems to transfer to improved visual acuity. Perceptual learning operates via a reduction of internal neural noise and/or through more efficient use of the stimulus information by returning the weighting of the information. The success of perceptual learning raises the questions of whether it should become a standard part of the armamentarium for the clinical treatment of amblyopia, and suggests several important principles for effective perceptual learning in amblyopia. (Dr. Levi, School of Optometry, University of California, Berkeley CA 94720-2020

**Treatment of Children with Amblyopia by Perceptual Learning.** Polat U, Ma-Naim T, Spierer A. *Vision Research* 2009; 2599-2603

For the whole group, the average improvement in visual acuity was 1.5 Snellen lines or 2.12 ETDRS lines. The training improved the contrast sensitivity, which reached the normal range after treatment. Thus, the perceptual learning technique can be successfully used to treat children with amblyopia even after the conventional treatment of patching fails. (Dr. Uri Polat, Goldschleger Eye Research Inst, Tel-Aviv University, Sheva Medical Center, 52621 Telhashomer, Israel.. Fax:972-3-535-1577)

**Perceptual Learning**

**How Much Practice is Needed to Produce Perceptual Learning?** Hussain Z, Sekuler AB, Bennett PJ. *Vision Research* 2009; 49:2624-2634

We examined the amount of practice needed to improve performance on 10-AFC face- and texture identification tasks. On Day 1, subjects were grouped by amount of practice: a control group had 0 trials of practice, and several experimental groups had practice that ranged from 1 to 40 trials per condition. On Day 2, all groups performed 40 trials per condition of the trained task. The effect of practice was estimated by comparing performance across groups on Day 2. In both tasks, increasing practice was associated with greater learning, but surprisingly small amounts of practice were required to improve performance. In the face identification task, for example, only one trial per condition on Day 1 was required to increase performance relative to the control group at the start of testing on Day 2. In the texture identification task, five trials per condition on Day 1 were required to increase performance relative to the control group. In both tasks, the advantage associated with small amounts of practice declined during the Day 2 session due to larger within session learning in the control group. Sleep had little to no effect on learning: performance depended primarily on the amount of preceding practice. (Dr. Hussain, Dept Psychology, Neuroscience and Bahaviour. McMaster University, Hamilton, Ontario, Canada L8S 4K1)
correlated stimulus, this ‘anticorrelated’ stimulus did not lead to a perception of depth. The activation maps to these disparity stimuli are very similar to those produced using stimuli defined by luminance or motion. The lateral area of the occipital lobe showed the largest difference in response to correlated as opposed to anticorrelated, disparity. This region included human MT/V5 and two areas, LO-1 and LO-2 recently defined as retinotopically distinct areas within area KO. All these areas, plus V3 and hV4, showed a significantly larger response to the correlated stimulus, compared to the anticorrelated stimulus. No other visual areas showed a significant difference in response. However, the responses to the correlated disparity were significantly more reliable than those to anticorrelated in all areas, except V1. Although there are considerable differences in the experimental approach, our fMRI results are broadly consistent with primate neurophysiology showed in responses to anticorrelated disparity in V1 neurons. (Dr. Holly Bridge)

Holly.bridge@clneuro.ox.ac.uk.

Strabismus: Treatment Rationale
Quality of Life


A new 3 part patient derived HRQOL (health-related quality of life) questionnaire for children with intermittent exotropia and their parents has been developed and validated, comprising child, proxy and parent questionnaires. These questionnaires detect reduced HRQOL in children with intermittent exotropia as reported by the children themselves and perceived by their parents (proxy report). Childhood intermittent exotropia also seems to affect parent HRQOL.

The intermittent exotropia questionnaire HRQOL questionnaires may prove useful in the clinical assessment if intermittent exotropia and for clinical trials. (Dr. Holmes Mayo Clinic, Ophth E7, 200 First St SW, Rochester MN 55905-0001. Fax: 507-284-8566. Email: holmes.jonathan@mayo.edu)

Strabismus Pathophysiology


The causes of manifest (strabismus) and latent (phoria) misalignment of the visual axes are incompletely understood. We calculated genetic and environmental contributions to strabismus based upon a critical review and quantitative meta-analysis of previous strabismus twin studies (n=3418 twin pairs) and calculated contributions to phoria based upon a new twin study (n=307 twin pairs). Our results suggest that genetic liability is necessary to develop strabismus, whereas environmental factors are sufficient to cause most phorias. The different etiologies implied by this work suggest that strabismus and phorias should be carefully distinguished in epidemiological work. (Dr. Jeremy B, Wilmer, Wellesley College, Psychology, 106 Central Street, Wellesley MA 02481.)


Parental germline mosaicism can mimic recessive inheritance in CFEOM (congenital fibrosis of the extraocular muscles) and likely is under-recognized. Ophthalmologists should be
aware of this phenomenon when counseling parents of children with apparent recessive (or de novo) hereditary eye disease. Unlike other reported KIF21A mutations that cause CFEOM1, the p.R954L variant seems to be associated with abnormal pupils. (Dr. Khan, Pediatric Ophthalmology, King Khaled Eye Specialist Hospital, PO Box 7191, Riyadh 11462, Kingdom of Saudi Arabia. Email: arif.khan@mssm.edu.

Strabismus: Surgical Treatment


Slow releasing all-trans-retinoic acid in polytetrafluoroethylene/poly lactide-co-glycolide was found to reduce adhesion and to allow delayed adjustment in most eyes for up to 5 weeks after surgery. (Dr. Jeong-Min Hwang, Dept Ophthalmology, Seoul National University Bundang Hospital, 300 Gumi-dong, Bundannng-gu, Seongnam, Gyeonggi 463-707, Korea.

Related Ocular Motility


We recommend myectomy of the superior oblique muscle combined with resection of the trochlea if symptoms of SOM recur after a prior superior oblique tenectomy. Based on this small series with long followup, the procedure also may be considered as the primary operation for SOM that fails medical management. (Dr. Ruttum, Eye Institute, Dept of Ophthalmology, Medical College of Wisconsin, 925 North 87th St, Milwaukee WI 53226)

Traumatic Hyphema

Paediatric Social Admission to Hospital. Anand JC. Intl Pediatrics 2009; 24:56-64. [Author Abstract]

The phenomenon of paediatric social admission describes the hospitalisation of children for medically non-urgent and/or social reasons. Much of the research in this field has been in relation to avoidable admissions which have been identified, studied, and condoned based on strict medical criteria. Such research has tended to mask the significance of social factors and the commonplace practice of Paediatric Social Admission... social, organisational and subjective factors which determine their decision to admit or not to admit a child to hospital. This paper reports findings from interviews with 27 health professionals involved in PSA and a document audit of 21 specific cases. ... begins to address the inherent paradox of responding to a child and families social needs in a medical context. (Trinity College Dublin. Email: carteraj@tcd.ie)

[Editor's note: We used to admit traumatic hyphema children partly because it avoided repeated eye trauma and rebleeding from attacks and hits by their typically offensive siblings and friends. We didn’t tell anyone that. Now this is called: “pediatric social admission”. This article doesn’t include traumatic hyphema need. But we need to document the need in our literature with case reports of rebleeding due to such “social” problems. If you have such cases we will publish them. -PER]

Edited by P.E. Romano, MD, MSO. Abstracts are selected on the basis of interest to our readers. To avoid duplication you will find none are from The American Orthoptic Journal, The British Orthoptic Journal, The Journal of the American Association for Pediatric Ophthalmology and Strabismus, The Journal of Pediatric Ophthalmology and Strabismus, or Strabismus, as most of our readers already subscribe to and/or read them. Publication herein does not constitute endorsement, recommendation or a validation of author's conclusions.
More and More TV 3D Stereoscopic Movies everywhere even IMAX Blue&Amber anaglyphs; Do It Yourself 3D TV; Spectacle computer? = “Augmented Reality” Not Sleeping Hazards and Driving Hazards.

And how about this new Fuji stereocamera! It isn’t cheap but I can’t wait to get my hands on one since somehow it doesn’t require anaglyphic spectacles to see the image stereoscopically on the MUST USE LCD viewers. Wonder if they are using that prism effect like Dr. Joseph Lang’s famous stereotests?

And now, even here in Dillon, at over 9000 feet altitude we now have 3D stereo flics!!! see next page:
Skyline Cinema employees from left, Dave Blake, Bryan Prim and Keller Morrison model and test drive the latest in 3-D eyewear fashion Friday. Skyline Cinema in Dillon now has a digital 3-D cinema projector and server in one of its theaters.

Dillon’s Skyline Cinema now has 3-D capability

Friday was the first day to watch a movie in digital 3-D

By KIMBERLY NICOLETTI
SUMMIT DAILY NEWS

The future of movie theaters has just debuted in Dillon.

Skyline Cinema closed theater No. 7 last week, in order to install a Christie digital projector, a rounded silver screen, 6.1 Dolby digital sound and Real D 3-D. That means audiences can now watch high-adrenaline adventure flicks — like “X-Games,” which is now playing, or “Toy Story” and “Toy Story 2,” which will show as a double feature soon — in eye-popping 3-D.

“It will bring us into the 21st century,” said Brian Prim, of the Skyline Cinema.

It took a little time for smaller theaters to catch up with the big city blasts in 3-D, because the transition to 3-D requires an investment of around $100,000. But a group of independently owned theaters banded together, which allowed a power-in-numbers cost reduction. The film industry is also giving a bit of a break on price to get smaller communities in on the mix, because, ultimately, it reduces production companies’ costs.

Normally, films come in huge cans holding 35 mm film; one movie can weigh about 70 pounds, said Jay Schwartz, the regional manager of Storyteller Theatres, which owns Skyline, as well as 55 other theaters in Wyoming, Arizona and New Mexico.
With 3-D technology, the film comes on an extremely secure hard drive, which is the size of a VHS tape and cannot be reproduced.

Schwartz hopes to install another 3-D system in an additional Skyline Cinema theater sometime next year, but it depends on Christmas season ticket sales and how well audiences support 3-D movies.

All 3-D movies at Skyline will cost an additional $3 for moviegoers; some metro theaters charge more. The fee covers production companies' licensing fees, Schwartz said.

So far, Skyline isn't charging extra for any higher costs it's incurring, including new maintenance of the electronic system and glasses. One reason the company decided to go with Real D rather than Dolby is because the special 3-D glasses viewers need to wear to see the 3-D effects cost much less than Dolby's, which run $29 for one pair of reusable glasses. Audiences will be asked to recycle their glasses in bins outside the theater room. All of the glasses return to the production company, which grinds the plastic and uses it for other applications. In this way, all glasses are sanitary for each user.

In addition to cost savings for production companies, the digital transition will prevent the industry from impacting the environment with about 10,000 feet of film for every two-hour movie it sends to theaters nationwide, said Storyteller Theatres senior vice president and general manager Tom Decker.

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**MOTHER GOOSE AND GRIMM**/ by Mike Peters

- **WHAT ARE THOSE?**
- **3D GLASSES**
- **YOU GOING TO A MOVIE?**
- **NO, I WEAR THEM EVERYWHERE.**
- **WHY?**
- **WHENEVER I GO TO A PARTY, I NEVER FEEL LIKE I'M PART OF IT, I'M JUST AN OBSERVER.**
- **YOU'RE STARTING TO FREAK ME OUT, RALPH.**
- **YOU SHOULDN'T SEE HOW BIG YOUR NOSE IS WITH THESE 3D GLASSES.**
- **GET AWAY FROM ME, YOU WEIRDO.**
- **THESE 3D GLASSES MAKE YOUR HAND LOOK HUGE.**
- **I SAID BEAT IT, RALPH.**
- **SEE? I'M PART OF THE ACTION, 3D GLASSES REALLY WORK.**
We were struck when we first saw the glasses being distributed in theaters and for TV viewing (see last issue for our Superbowl experience) and noted that the NEW anaglyphic combination was blue and amber whereas we are so used to the red and green specs we use with our four dot tests and some stereotests.

But when you come to think of it, those red-green specs had the potential of misfiring for those 10% of males who have classic red green color amblyopia, as we prefer to name it, because it is not really “blindness” which unnecessarily stigmatizes the problem, but is a only a reduction in color sensitivity, a “blunting”, as is amblyopia for acuity vision. We think the official name needs to be changed one of these days. Achtung ! Attention! To those of you who work on nomenclature and coding and nosology, please.

SEEING- After more 3D, see next three pages hence. page for ultimate TV viewing- even smaller than i-pod phone, which it will ultimately replace, along with your blue tooth earpiece. Unfortunately it requires you to wear glasses, which fewer and fewer people have need for. (Me too! Boy do I love my IOLs that let me see 20/20 or better with no correction ever, not even for presbyopia)

EATING TIPS
Are you dieting too? Who isn’t? Fast foods and carbo snacks are all addictive. Your Editor has a couple of new tips:
1. TOMATOES! THEY CONTAIN SOME SORT OF APPETITE SUPPRESSANT So grab a fresh one first when your brain says “I am hungry, I wants something”. They are also red and contains a lot of anti-oxidants (anti-cancer drugs) typical of red fruits. Buy ROMA tomatoes for only half the price of regular tomatoes and taste even better (season to taste).
2. NO SUGAR SWEET RELISH HAS Splenda ZERO CALORIES BY THE LABEL and tastes yummy, is inexpensive. Kroger (house brand) sweet relish is our choice.

TIP on CAR care: DON’T BELIEVE YOUR CAR MANUFACTURER’S MANUAL WHERE IT SAYS THAT YOU EITHER DON’T NEED TO EVER CHANGE THE OIL, OR ONLY A LOT MORE RARELY THAN YOU USED TO.

Oil is still relatively dirt cheap, while car parts continue to get more complicated and much more expensive:

Your editor managed to totally destroy the transaxle on his Audi Allroad at 40,000 miles. Chipped so the car was out of warranty. The repair quote: $11,000 (yes that is eleven thousand dollars)- the whole car cost less than 50K new. (After a year of searching we found one grey mkt replacement for just half that 11k price.) The family van, a Toyota Sienna recently started missing automatic shifts at a similar mileage, just out of the five year warranty. This was cured by an UN-required tranny oil change. The old oil was GROSS! Now it shifts fine again.

And all those TV ads where horrible black sludge suddenly dumps on cars or people. You don’t need magic oil to avoid that- you just need to change your engine oil every 3-5000 miles. Cheap ordinary oil will do the job. Skip the expensive synthetics because they may last forever, but the world is still a dirty place and your oil filters are not perfect. (We cant even find a coffee pot filter that doesn’t let some grounds thru even when we use triple name brand filters).
Bringing 3D Home

Q I love the new digital 3D movies that are coming to theaters. Is there any way I can watch my old two-dimensional DVDs in 3D?

A Yes, you can. In fact, it’s surprisingly easy to play any old 2D DVD in 3D on your home TV. And while it won’t be a Monsters vs. Aliens–level experience, it’s a good-enough holdover until the studios get around to releasing home-3D versions of their growing catalogue of digital 3D movies.

First step: Find out if your TV is 3D-capable. Now, before you tune out—"Oh great, I have to buy an expensive new TV"—a surprising number of sets have this feature, though manufacturers rarely market it. In fact, every new DLP rear-projection TV can play 3D, and a decent number of plasmas can as well. If you’ve purchased an HDTV in the past few years, there’s a fair chance it can play 3D. (Check the back for an output labeled “3D sync.”)

If your TV is 3D-ready, you’ll also need a PC and the Samsung SSG1000 3D conversion kit, which retails for $130. The kit comes with all the necessary hardware for the conversion, including a pair of 3D glasses, as well as a computer program called TriDef Media Player that can transform your video files and DVDs into 3D as they play. Since the movies will be playing from your computer, you’ll need to output your PC’s video to your TV using an HDMI cord. If your PC doesn’t have an HDMI output, you can use its DVI jack and a DVI-to-HDMI adapter.

The 3D effect works by showing your eyes the same image from slightly different angles, creating the illusion of depth perception. In theaters, this is done with plastic polarized glasses that, when paired with 3D projectors and specially filtered movie screens, cause a different picture to pass into each eye. Since your home TV doesn’t have these special lenses and filters, the home 3D kit requires a bit more technical trickery to pull off the illusion. It uses what are called...
shutter glasses. A 3D-enabled TV refreshes its image 120 times per second, but these battery-powered glasses effectively split the image between your eyes by blanking out each lens 60 times per second. A 3D emitter (which comes with the kit) tunes this flickering, ensuring that the lenses are open at alternating times so each eye receives different images from the screen. And it happens so fast that you can’t tell it’s going on.

As for the TriDef 3D conversion software, I noticed that the program seems to produce much of its 3D effect by pushing the bottom of the screen into the foreground and progressively sloping the upper part of the image into the background. “The basic assumption is that whatever is on the bottom of the screen is in front,” says Douglas Hunter, vice president of licensing for Dynamic Digital Depth, the company that makes the TriDef software. “But that’s just one of about 15 different things the software does in deciding the depth values for each object. It’s also looking at things such as color, contrast, motion and object structure.”

So what’s the insta-3D experience like? It’s definitely more of a fun toy than an enjoyable way to watch movies. I demoed the program on about a dozen test subjects. For the first few minutes, my subjects radiated wonder—like they were watching a moving picture or talkie for the first time. *Freaks and Geeks* in 3D! My DVD of old Residents music videos in 3D! ("Amazing!" "Wow!" "How the heck is this happening?") But the initial excitement soon subsided, and my guinea pigs inevitably asked me to turn the 3D off. ("Can we just watch the movie normally now?") Fact is, the experience is cool, and initially impressive, but it just isn’t enjoyable for very long.

The main problem: A lack of subtlety. The best digital 3D movies make deliberate use of the third dimension, either by throwing stuff at the audience’s face or by immersing the audience in the environment. The instant 2D-to-3D software doesn’t do that. It just pops things into the foreground. Producing decent 3D footage is an art, and it’s not one that a simple PC program is able to replicate on the fly. At least not yet. 

3-D vision may be sum of many parts
On the retina, an object’s shape is represented as a 2-D map that changes as object and viewer move. How does the brain turn that constantly changing 2-D retinal map into stable information about the object’s 3-D shape? New research by scientists at the Krieger Mind/Brain Institute shows that neurons in the higher-level visual cortex respond to subcomponents of the object’s 3-D surface. For example, one neuron responds to combinations of forward-facing ridges and upward-facing concavities. Other neurons encode other combinations of surface components. Ensembles of neurons could represent objects as the sum of their surface components. This representation may underlie our ability to see and understand the structure of 3-D objects. The research appeared in the October 5 online edition of Nature Neuroscience. Lead author was postdoctoral fellow Yukako Yamane.
Introducing TrueWare 7.0, the first 3D User Interface, and the TrueZoom 3D camera for microscopes, instant digital surgical zoom at the AAO. See attached release and images.

Be sure to visit TrueVision in San Francisco, Exhibit Booth #4065 North, to see the revolutionary 3D Visualization and Guidance Platform.
We didn’t get to the AAO meeting this year but did receive these promo emails before it. Since when using a binocular microscope, the surgeon and his assistant both have first hand 3D stereoscopic vision, we presume these promos are for stereo recordings of such proceedings. But there is one comment in the ad that makes me want further info,:

[TrueVision] “... has the potential to replace traditional microscopy in many surgical procedures.”

We would be happy to print a letter to the editor or article updating our readers (and me) on these latest surgical advances... A lot of significant changes in the way we do things never get published, in either periodicals or books....

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SEEING

On the next page is the future of IT (information technology) and you might remember my predicting demonstrably by wearing, about a decade ago at a couple of talks I gave about the future of binocular vision, a miniature TV receiver attached to and suspended from a head band in front of one eye. It was actually a working device. I spoke then of my concern that this was the future and my fear that since most people would be using this full time, that it would block binocular vision with a number of detrimental consequences.

My concern was appropriate but I failed to foresee the technological advances that would eliminate most of my concerns. Just look carefully at the picture. There is a microscopic (not really) projection TV mounted on the temple piece, projecting on to the back-surface of a spectacle lens. The picture is therefore superimposed on normal vision! Full and normal binocular vision can therefore be maintained at all times, while viewing and reading the TV imagery. So my concerns evaporated with this technological progress....

But this is the future. It is called “Augmented Reality.” Even the I-phone will be one day passe.
Glasses provide information in the blink of an eye

Dresden, Germany — In the James Bond film Die Another Day, the titular hero trains for his upcoming mission using virtual reality sunglasses. Researchers at the Fraunhofer Institute for Photonic Microsystems (IPMS) are developing a bona fide interactive display on a pair of glasses that they hope will be worthy of the fictional spy.

A user of the Fraunhofer glasses will be able to look at his surroundings and the display at the same time. Technically, this combination of a virtual reality display and the ability to see the surrounding environment is referred to as augmented reality.

Although virtual and augmented reality head-mounted displays have been around a long time, historically they showed information only passively and were bulky to wear on the head. The Fraunhofer glasses are lightweight and interactive.

The researchers are developing an eye-tracking feature that will enable wearers to influence the content of the display by scrolling with their eyes or by fixing their eyes on a point to select a menu option. A separate group of researchers, at Fraunhofer Institute for Information and Data Processing in Karlsruhe, Germany, is working on eye-tracking algorithms that can distinguish between intended eye movements and random ones such as blinking.

This eye-tracking feature will be useful for anyone needing to work with his hands while using the display, including surgeons, civil engineers and technicians. This option will allow surgeons to operate while viewing x-ray images, or building engineers to look at plans while working on a project. The glasses also connect to a personal digital assistant that can be used for handheld control.

The interactive display consists of organic LEDs on top of a 19.3 × 17-mm CMOS chip, a lightweight combination. In the prototype model, the chip is just behind the hinge on the temple of the glasses, and the bidirectional display projects onto the retina of the wearer so that it appears to be viewed from 1 m away.

The eyeglasses’ final model may have additional optics. According to Michael Scholles, the business unit manager at Fraunhofer IPMS, “The challenge is to find an optics design that can be used both for generating the virtual image display and the eye tracking.”

Until spring 2011, the product’s development will be funded by the Fraunhofer central administration under the iStar project. The project has an industry advisory board that includes companies such as EADS, Daimler and T-Systems, which are pilot users of the system.

“We think that first applications will be for professional use (assembly, maintenance, medical). However, within the mentioned iStar project, also a touristy prototype application will be developed. So, yes, we believe that the interactive eyeglasses will be available to the greater public, but only as a second step,” Scholles said.

David L. Shenkenberg
david.shenkenberg@laurin.com
EVER EVIL Insurance

To the discussion of the sinful greedy insurance industry in the last several issues, in our editorials, we would add another thought in addition... the true motivations of the health insurance industry: Their primary job is NOT to help their customers. It’s ONLY to make $$$ for their GREEDY shareholders. And that goes for second third and fourth objectives... Outrageously they express their profits as their “medical LOSS ratio”, i.e., the ratio between their premiums and the medical care they pay for! In their eyes, what you are doing as a doctor, is creating a LOSS for them, denying them further profit by rendering unfree and implied wrongful or bad medical care! You would think they would have the decency and morality to call it a “medical BENEFIT ratio” or something like that sound less avareulous and humane! If you watch much TV, who does the most advertising? The insurance industry. They can afford it, right! (And some of the biggest CEO salaries anywhere) And they have to advertise like crazy to sell, sell sell. And the agents are notorious for clipping commissions for a lifetime and retiring early and wealthy. Is this an industry whose product you want to purchase if you absolutely don’t have to? You know you aren’t going to ever get back even fifty cents on your dollar if you have average losses... The best example is AFLAC, one of the most financially successful right now selling insurance to cover expenses in case of illness. Doesn’t everybody have paid sick time? In fact, AFLAC is most successful in foreign countries with the very must luxurious sick leave and benefits programs. Perhaps people in those countries are so used to the government or somebody else taking care of them, they have forgotten how to take care of themselves? But when you do have a loss, expect to have to hire a lawyer to get a fair settlement out of your or their insurance company... We have had to do that for the last decade or so 100% of the time.

The legal fees have been worthwhile! And don’t forget to count those time and money costs in the cost of your insurance if you don’t want to just cover yourself all by yourself.

Well, we don’t know if they read our comments, but someone has got to them and they are slowly abandoning their old self defeating terminology!!!! Maybe they will continue to get their heads unscrewed!! We hope so. But it is not likely. One of the few things we agree with Obama, if we cant get rid of them we should make them public utilities. -per

We have some support re insurance being EVIL see Garfield on the next page...

from The Wall Street Journal October 5, 2009 by Janet Adamy and Greg Hitt. Insurers Fight Bid To Ease Penalties In Health Bill. “... For Americans who don’t carry health insurance. ... The industry concerns illustrate one tension at the heart of the latest Senate bill. Key industries bought into the measure - and agreed to absorb cuts in reimbursements - on the expectations that millions of new customers would be brought into the health care system. The weaker the mandate to buy insurance, the fewer the new customers. ... In addition to concerns about the narrower mandate, health insurance companies worry that penalties aren’t stiff enough to prompt everyone to buy insurance. Some, particularly younger, healthier people, may choose to pay the penalty instead. Without an influx of healthier customers, insurers say they won’t be able to offset the cost of accepting all customers regardless of their health status - a key plank of the overhaul. ... the latest proposal’s top penalties for not carrying insurance, which peak at $1900 a year for families, represented only about 15% of the average health insurance premium....”
SERIOUS PUBLIC SAFETY

Sleep Deprivation Versus ETOH Intoxication

from HOPKINS MEDICINE, Spring-Summer 2009 by Linell Smith. Tired Attitudes. Patient safety researcher raises awareness of the toll of stress and sleep deprivation. “While looking into the effects of fatigue, patient safety researcher Bryan Sexton discovered an unsettling truth: the more tired you become, the less convinced you are that you’re tired. Now the psychologist is on a quest to educate health care providers. ...’Sleep-deprived people have slower reactions, make more mistakes, are crankier, and more prone to burnout and depression.’ He points out that after going 24 hours without sleep, people perform on cognitive tests as they would with a blood alcohol level of 0.10 - legally drunk. In one study of sleep loss and performance, fatigued medical resident were 90 percent less efficient on simulated procedures than those who were well rested. ... He says that functional MRIs - brain scans that measure blood flow- revealed disturbing facts about fatigue. After 35 hours without sleep, a normal brain resembles that of someone with paranoid schizophrenia or an anti-social personality disorder. ‘There’s a disconnect between the prefrontal cortex, which controls logic, and the amygdala, the emotional center,’ he says. ‘You overuse the amygdala, which means you can interpret a hand gesture or comment in an emotional even violent way. You tend to fly off the handle, and say or do foolish things. Essentially you become a jerk.’ ...

This is intended to protect patients from house physicians who like those Harvard resident surgeons have duty two 30 hour shifts per week.... But doctors and medical personnel everywhere find themselves forced by duty and circumstances to stay up all night - that’s the problem..... -per

The inclusion of the next page was prompted after a young teenage girl (driving) and boy (her brother), the children of a nearby neighbor we have known for 15 years, since they were babies, wound up on their heads almost on our doorstep one morning en route to school when they rolled and totaled their SUV on our one lane dirt road, “avoiding a fox who darted across in front of them”. And they walked away not even scratched....
Public Health Perspectives

Influence of Distractions/Inattention on Teenage Driver Crashes and Injury Severity

Brenda Luna, MPH

Studies demonstrate that teenage drivers are at higher risk for fatal and non-fatal car crashes. Teenagers’ driving ability, willingness to partake in distracted driving behavior, and increased risk-taking behavior have been identified as contributors to this increased frequency and risk of crashing. As of 2003, few states addressed “driver distraction” in their driver education manuals. “Driver distraction” is defined as a process or condition that draws the driver’s attention away from the driving task, and injuries vary according to the type of distraction and/or “inattention” and the age of the driver. Driver “inattention” is the inability to process the appropriate information for the primary task in the absence of a secondary task. The four elements of driver distraction include: visual, auditory, biomechanical, and cognitive. Examples of distractions that have been greatly studied due to their relationship to crash risks and encompass several driver distraction elements are cell phones and passengers. Since young drivers appear to be more willing to accept new technologies and devices, as they gain more driving experience, they tend to over-estimate their ability to multitask with in-vehicle devices while driving.

In order to provide new insights into how driver distractions and inattention influence the injury severity of teenage drivers and their passengers, Neyens and Boyle (2008) developed an ordered logit model using a national crash database (U.S. DOT-General Estimates System crash data from 2003) to perform their analysis. Specific driver distractions/inattentions were categorized as follows: Inattention (Inattentive or lost in thought, looked but did not see), cell phone usage (talking or listening to cell phone, dialing cellular phone), passengers, in-vehicle devices (moving objects in vehicle, adjusting climate control, adjusting radio/cassette/CD, using other devices/controls integral to vehicle, eating/drinking or smoking). Maximum likelihood methods were used by Neyens and Boyle (2008) to create the set of regression coefficients for the ordered logit model.

Analysis of the data indicates many of the crashes (21.03%) were related to “inattentive drivers”. The analysis also revealed that the majority (76.3% of the crashes) did not involve “driver distraction” or “inattention”; however, 1.6% of crashes involved “in-vehicle devices”, 0.7% involved passengers, and 0.4% involved cell phones. Since “lost in thought” and “looked but did not see” related crashes are independent with the engagement of a secondary task, it appears that “inattention” is a major problem for teenage drivers, as well as their willingness to engage in “distracting activities”.

This study also suggests that “distracted” teenage drivers (females more than males) and their passengers are more likely to be severely injured.

As more devices are being installed in vehicles and the use of cell phones continues to increase, the potential for driver distraction-related crashes resulting in higher injury severity is likely to increase. In 2004, “distraction-related” bills were being considered in 33 states.

Neyens and Boyle (2008) suggest that providing feedback to teenage drivers on when they are “inattentive” or “distracted” is probably more beneficial than implementing a law.

Reference

Miranda Warning For Traffic Offenses

It would be the rare person that hasn’t heard some version of the Miranda warning "---anything you say may be used against you in a court of law---".

The issue for motorists is when is a police officer required to give a driver a Miranda warning if that driver is stopped for a traffic violation. The short answer: only after you have been officially arrested and taken into custody.

Anytime, up the moment of arrest, is fair game and anything you say can still be used against you in court, even though you were not read your Miranda rights. This is why we recommend that you say nothing that in anyway will come back to haunt you in court, before or after you are arrested, and even if you are not arrested.

You can be polite, provide your license and other required documents, but you are not required to discuss the event for which you were stopped nor any other matter related to your actions or motives. And, as noted in past articles, you are not required to take field sobriety tests or permit the search of your vehicle (unless the officer has probable cause to do so).

ed Note: FIRST SECOND AND THIRD: LYING TO A COP IS YET ANOTHER CRIME FOR WHICH YOU CAN BE CHARGED AND EXECUTED SO 1. DON’T EVER LIE TO THE COP 2. DON’T EVER DENY THE CRIME AS THAT Per se IS A LIE IMMEDIATELY TO THE COP WHO MUST HAVE SOMETHING THAT SAYS YOU DID IT IN ORDER TO STOP YOU at all. (that’s called “reasonable cause”such as when you open your mouth to talk and he smells alcohol ?). AND DON’T EVER SAY ANYTHING TO A COP THAT YOU CANNOT ABSOLUTELY PROVE BEYOND absolutely THE SHADOW OF A DOUBT INCLUDING CROSS EXAMINATION
IN COURT, BECAUSE HE MIGHT THINK YOU ARE LYING AND WILL CHARGE YOU WITH LYING ANYWAY just TO LET YOU PROVE THAT YOU ARE NOT.

3. COPS CAN LIE TO YOU FREELY AND IT IS NOT WRONG FOR THEM TO DO SO EVEN IF IT IS ENTRAPMENT (SEE CLIPPING ->->)

4. SO JUST SHUT UP. Shut up....shut up.... Unless you can talk him out of it really fast, as in BEFORE he/she starts writing your ticket.

And after you find your license, registration and insurance card, and surrender them, keep your hands where the officer can see them, like on the steering wheel. They like that. They don’t like being shot with your concealed weapon. That’s their #1 fear at every stop.

Remember the officer knows just where his case is weak (and it always is) or even absent (dishonest or dead wrong) and what he wants or needs 100% of the time, in every case, is your admission of guilt to seal his case against you.

90% of drivers obey all traffic laws and never exceed the speed limit- at all. Your part time racer editor is not in that group which is why he is so aware of this stuff and would like to protect his readers from the authorities. The fact of the matter is that there are more and more policemen out there every week and weekend and you must be aware of that. And because of the current financial problems of unreformable spendthrift local government (humans wouldn’t be human if they could resist the temptation to spend all the money they can get their hands on when it is NOT THEIR MONEY!). We really need to have the government run by competitive private enterprises, not by professional politicians).

But the cops are all out there under orders to write as many tickets as they can to raise as much money as they can for spendthrift local government....

The last four speeding tickets my wife and I have suffered have been for:

1. going 40 in a 30 where there were NO speed limit signs at all. My lawyer said “pay” they will not never admit wrongdoing..

2. Being on the end of a string of cars going through a construction area, which allowed the local cop to jump on our butt and give us a ticket for going ten over in an empty construction zone on a weekend when there was NO work going on! And we were only following a string of half a dozen cars. But we were last and he could get to us.

3. Going 75 (not 76) in a 65 but driving a red Corvette (which is a sin per se, right?).

4. Going 49 in a 35 because I was stupidly late for an appointment and I missed an unflagged 40 mph limit drop to 35.. That only cost me FOUR Points and $250-odd dollars I have talked my way out thrice and lawyers have done so for me ~ten times ...

But a couple of times I shot my mouth off and destroyed whatever case I had. That is the reason for this B4 or NO Miranda advice now. Miranda is a joke. KEEP YOUR MOUTH SHUT remember YOU CAN GET
ANOTHER SERIOUS TICKET FOR "LYING" TO THE COP NOW, AND WHAT OR ABSOLUTELY ANYTHING YOU SAY IS A LIE TO THE COP UNLESS YOU CAN ABSOLUTELY PROVE IT ISN'T, WELL BEYOND THE SHADOW OF ANY DOUBT. If a cop has any reason to stop you, Remember Martha Stewart. Do I need a lawyer?

We don't drive much anymore, except for important medical trips. The roads are just too hazardous from enforcement. Every confrontation with authority on the road is traumatic regardless. Each one costs $1k+ total and creates a new little PTSD! I can remember every single confrontation I have had all my life, can't you? -per

UNPROTECTED TEXT

WE INVESTIGATE IF SENDING MESSAGES ON YOUR PHONE WHILE DRIVING IS MORE LOL THAN OMFG.

BY MICHAEL AUSTIN
PHOTOGRAPHY BY AARON KILEY

If you use a cell phone, chances are you're aware of "text messaging"—brief messages limited to 160 characters that can be sent or received on all modern mobile phones. Texting, also known as SMS (for short message service), is on the rise, up from 9.8 billion messages a month in December '03 to 110.4 billion in December '08. Undoubtedly, more than a few of those messages are being sent by people driving cars. Is texting while driving a dangerous idea? We decided to conduct a test.

Previous academic studies—much more scientific than ours—conducted in vehicle simulators have shown that texting while driving impairs the driver's abilities. But as far as we know, no study has been conducted in a real vehicle that is being driven. Also, we decided to compare the results of texting to the effects of drunk driving, on the same day and under the
exact same conditions. Not surprisingly, Car and Driver doesn’t receive a lot of research grants.

To keep things simple, we would focus solely on the driver’s reaction times to a light mounted on the windshield at eye level, meant to simulate a lead car’s brake lights. Wary of the potential damage to man and machine, all of the driving would be done in a straight line. We rented the taxiway of the Oscoda-Wurtsmith Airport in Oscoda, Michigan, adjacent to an 11,800-foot runway that used to be home to a squadron of B-52 bombers. Given the prevalence of the BlackBerry, the iPhone, and other text-friendly mobile phones, the test subjects would have devices with full “qwerty” keyboards and would be using text-messaging phones familiar to them. Our intern Jordan Brown, 22, armed with an iPhone, would represent the younger crowd. The older demographic would be covered by head honcho Eddie Alterman, 37 (or 29 in dog years), using a Samsung Alias. (Alterman also uses a BlackBerry for e-mail. We didn’t use it in the test.)

Our long-term Honda Pilot served as the test vehicle. When the red light on the windshield lit up, the driver was to hit the brakes. The author, riding shotgun, would use a hand-held switch to trigger the red light and monitor the driver’s results. A Racelogic VBox III data logger combined and recorded the test data from three areas: vehicle speed via the VBox’s GPS antenna; brake-pedal position and steering angle via the Pilot’s OBD II port; and the red light’s on/off status through an analog input. Each trial would have the driver respond five times to the light, and the slowest reaction time (the amount of time between the activation of the light and the driver hitting the brakes) was dropped.

First, we tested both drivers’ reaction times at 35 mph and 70 mph to get baseline readings. Then we repeated the driving procedure while they read a text message aloud (a series of Caddyshack quotes). This was followed by a trial with the drivers typing the same message they had just received. Both of our lab rats were instructed to use their phones exactly as they would on a public road, which, if Jordan’s mom or Eddie’s wife are reading this, they never do.

Our test subjects then got out of the vehicle and concentrated on getting slightly intoxicated. They wanted something that would work quickly: screwdrivers (vodka and orange juice). Between the two of them, they knocked back all but three ounces of a fifth of Smirnoff. Soon they were laughing at all our jokes, asking for cigarettes, and telling us about some previous time they got drunk that was totally awesome. We had them blow into a Lifeloc FC10 breath-alcohol analyzer until they reached the legal driving limit of 0.08 percent blood-alcohol content. We then put them behind the wheel and ran the light-and-brake test without any texting distraction.

The results, though not surprising, were eye-opening. Intern Brown’s baseline reaction time at 35 mph of 0.45 second worsened to 0.57 while reading a text, improved to 0.52 while writing a text, and returned almost to the baseline while impaired by alcohol, at 0.46.

The results, though not surprising, were eye-opening. Intern Brown’s baseline reaction time at 35 mph of 0.45 second worsened to 0.57 while reading a text, improved to 0.52 while writing a text, and returned almost to the baseline while impaired by alcohol, at 0.46. At 70 mph, his baseline reaction was 0.39 second, while the reading (0.48), texting (0.48), and drinking (0.50) numbers were similar. But the averages don’t tell the whole story. Looking at Jordan’s slowest reaction time at 35 mph, he traveled an extra 21 feet (more than a car length) before hitting the brakes while reading and went 16 feet longer while texting. At 70 mph, a vehicle travels 108 feet every second, and Brown’s worst reaction time while reading at that speed put him about 30 feet (31 while typing) farther down the road versus 15 feet while drunk.

Alterman fared much much worse. While reading a text and driving at 35 mph, his average baseline reaction time of 0.57 second nearly tripled, to 1.44 seconds. While texting, his response time was 1.36 seconds. These figures correspond to an extra 45 and 41 feet, respectively, before hitting the brakes. His reaction time after drinking averaged 0.64 second and, by comparison, added only seven feet. The results at 70 mph were similar: Alterman’s response time while reading a text was 0.35 second longer than his base performance of 0.56 second, and writing a text added 0.68 second to his reaction time. But his intoxicated number increased only 0.04 second over the baseline score, to a total of 0.60 second.

As with the younger driver, Alterman’s slowest reaction times were a grim scenario. He went more than four seconds before looking up while reading a text message at 35
mph and over three and a half seconds while texting at 70 mph. Even in the best of his bad reaction times while reading or texting, Alterman traveled an extra 90 feet past his baseline performance; in the worst case, he went 319 feet farther down the road. Moreover, his two-hands-on-the-phone technique resulted in some serious lane drifting.

The prognosis doesn’t improve when you look at the limitations of our test. We were using a straight road without any traffic, road signals, or pedestrians, and we were only looking at reaction times. Even though our young driver fared better than the balding Alterman, Brown’s method of holding the phone up above the dashboard and typing with one hand would make it difficult to do anything except hit the brakes. And if anything in the periphery required a response, well, both drivers would probably be screwed.

Also, don’t take the intoxicated results to be acceptable just because they’re an improvement over the texting numbers. They only look better because the texting results are so horrendously bad. The buzzed Jordan had to be told twice which lane to drive in, and in the real world, that mistake could mean a head-on crash. And we remind again that we only measured response to a light—the reduction in motor skills and cognitive power associated with impaired driving weren’t really exposed here.

Both socially and legally, drunk driving is completely unacceptable. Texting, on the other hand, is still in its formative period with respect to laws and opinion. A few jurisdictions have passed ordinances against texting while driving. But even if sweeping legislation were passed to outlaw any typing behind the wheel, it would still be difficult to enforce the law.

In our test, neither subject had any idea that using his phone would slow down his reaction time so much. Like most folks, they think they’re pretty good drivers. Our results prove otherwise, at both city and highway speeds. The key element to driving safely is keeping your eyes on the road. Text messaging distracts any driver from that primary task. So the next time you’re tempted to text, tweet, e-mail, or otherwise type while driving, either ignore the urge or pull over. We don’t want you rear-ending us.
FALLING WATER
A FRANK LLOYD WRIGHT COUNTRY HOUSE

BY EDGAR KAUFMANN, JR. / INTRODUCTION BY MARK GIROUARD