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InteRyc-volume 4, October, November and December, 2002

ALL INDIA STRABISMOLOGICAL SOCIETY

JKA Institute of Strabismology and binocular Vision

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Sudha Awasthi Patney, MBBS, MS (Ophth), FRCOphth (London)

(NOTE: The following is a repeat for obvious reasons)

A special request to the members: Prevent strabismus and amblyopia in children

This is an appeal to all the members to please start a campaign for prevention of amblyopia. Actually I am of the opinion that a legislation is needed badly, that will make it compulsory that every child's eyes are thoroughly examined by the age of 1 year, so that measures can be taken to prevent amblyopia (strabismic, anisometropic and ametropic) and strabismus. If it could be done for vaccination, it can be done for eye examination also.

At present there is general indifference towards this subject. It is also obvious that pediatricians and ophthalmologists have to be trained not to advise delay in treatment because the patient is a young child / infant. It is tragic that although parents have now become aware of the need for early treatment, the pediatricians only rarely refer them to ophthalmologists who are advising them to wait until the child is 8-10 / old enough for examination. We have to advise them strongly against this practice. If we can not compel the Government to bring in legislation, we can at least alert the public, the pediatric physicians and the ophthalmologists.

It is obvious that many more Institutes of Strabismology are needed in various parts of the country. Would you, dear members, be willing to take on the task of starting a branch of this JKA Institute in your area? *Any help and advice that I am capable of providing will be forthcoming. You will need some basic instruments to start with. Orthoptic instruments are the cheapest of the lot, have you noticed*? *Please let me know at once if you are interested.*

Please try to alert the patients, parents and other relatives, the public and other physicians, particularly ophthalmologists and pediatricians about the dangers of amblyopia, strabismus and other complications if significant refractive errors are not corrected within the first years of life and if strabismus is not treated immediately.

It is very painful to see so many cases of amblyopia. This condition, as you know, is totally preventable if treated early, whatever the age of the patient, the younger the better. The best time is immediately after the start of strabismus. However, it is obvious that to prevent ametropic and anisometropic amblyopia and in many cases strabismus, the children have to be thoroughly checked at least once by the age of 1 year. The saying that prevention is better than cure is *truest* in the case of strabismus and amblyopia.

INFORMATION

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1. *About the Institute*

A) *The need to have a squint treatment center* and a training center for strabismologists and orthoptists in India could not be ignored anymore in *nineteen fifties*. Dr. H.L.Patney felt it most acutely as he had trained as a premedical student, medical undergraduate and postgraduate in ophthalmology in UK. He had been doing orthoptics, contact lenses and all types of surgery as a Registrar in the Ophthalmology department of the Royal Cardiff Infirmary in Cardiff, Wales, UK back in 1942-44. He had the good fortune of being the assistant of Sir Tudor Thomas and used to assist him in his private practice also. Sir Tudor Thomas was a living legend in those days and was a pioneer in keratoplasty. However, he did all types of operations including retinal detachment repair and plastic surgery. Young Dr. Patney was given lots of opportunity to operate even on Sir Thomas' private patients. Sir Thomas was a very famous and busy man and he must have had confidence in Dr. Patney's prowess in surgery as he gave him even major surgeries to do. Sir Thomas' words and signatures on Dr. Patney's old books testify to this.

In 1946 when Dr. H.L. Patney was asked by Dr. Mehrey, the founder of Sitapur Eye Hospital to make a plan for the expansion of the hospital, he did a thorough job. He included in the plan, the name of *a squint / orthoptic department and school* along with those of ocular pathology, instrument factory, blind school, optometry school, postgraduate institute of ophthalmology, trainee's hostels, staff's residences etc. Much later he used to say that everything in that plan materialized except a boundary wall.

Dr. Mehrey who was himself keen on keeping everything upto date in his hospital happily worked hard to realize their dreams. It took them a few years to get a first rate orthoptic department and school.

1) The beginning was with *an orthoptic department* in early fifties by Dr. Patney who taught a smart compounder in the hospital the basic techniques of orthoptic examination and exercises on synoptophore.

2) *The Orthoptic School* was started in 1960 and according to plan Dr. Sudha Awasthi (who was at that time in K.G. Medical College, Lucknow) was asked to join the hospital by Dr. M.K.Mehra, (Dr. Mehrey's son). Dr. Awasthi had just passed her MS (Ophth.) from King George's Medical College, Lucknow, and was known to be specially interested in the subject. She joined Sitapur Eye Hospital and was soon after sent to London in October 1960.

3) A first rate orthoptic department, the first in India, which was on the lines of that at Moorfields Eye Hospital (High Holborn branch where Mr. T. Keith Lyle was the Director), was established after she returned from London after 1 year's training under Mr. Lyle.

B. *The need for imparting training in the subject of strabismology* (including orthoptics), was repeatedly impressed upon Dr. Sudha Awasthi (now Patney) by another living legend of those days, Mr. T. Keith Lyle. He was in 1960 and later for many years, the Dean of Institute of Ophthalmology, London and Director and Surgeon-In-Charge of the famous Orthoptic Department of the Moorfields Eye Hospital (High Holborn branch), London. Dr. Sudha Awasthi was training under him to further her somewhat limited knowledge of the subject, already gained during the running of an orthoptic clinic by her from 1957 to 1959 under the guidance of Prof. M.K.Mehra, a double FRCS.

Mr. Keith Lyle insisted that she should also train like an orthoptist-trainee in their Orthoptic School to gain first hand practical knowledge so that she can train orthoptists and Ophthalmologists / strabismologists with confidence. She stayed at Moorfields Eye hospital for 1 year and was then sent to Germany and Switzerland to learn first hand, pleoptics from the two pioneers (Prof. Cuppers of Giessen, W. Germany and Prof. Bangerter of St. Gallen, Switzerland, respectively). On her return to India in 1961, the ground was ready for her to impart to the ophthalmologists and the orthoptic trainees, special training in strabismology and orthoptics. The *first Squint / Orthoptic department and Orthoptic School of India had already been started at Eye Hospital, Sitapur, which was the premier eye institution of India in fifties, sixties and seventies* (for some more information see the inside of the back page). During her days there she kept on running the squint department, training the orthoptists, DOMS candidates (as Associate Professor in the Nehru Postgraduate Institute of Ophthalmology) and visiting ophthalmologists wishing to learn the subject.

C. *The idea of starting a training institute for strabismology* was conceived soon after Dr. H.L. and Dr. Sudha Awasthi-Patney left Sitapur and came to Rajkot.
The center for squint treatment was being run since their arrival in Rajkot in 1972 but a formal inauguration of a training center was performed in 1983. However, due to Dr. H.L. Patney's serious and prolonged illness the plan had to be kept suspended. The Institute started functioning in real earnest since 1996 but the foundation was being strengthened by Dr. Sudha Awasthi-Patney since 1994. She took a 4.5 months study tour of USA and UK in 1994, followed by annual visits to update her knowledge in preparation for starting and running the Institute and reviving the AISS. New orthoptic instruments were bought and old ones serviced.

D. AS already mentioned, the Institute became functional in 1996 along with the newly revived AISS.

E. At present there are only 29 members in good standing, i.e., the members who have paid up their dues until last year (2001). In all there were 88 registered members. Invitation to join the society was circulated once only. It has never been repeated / sent out again after 1997.

F. The Institute is running a fellowship course by correspondence. A diploma course is soon to be started for people who find the fellowship course too hard.

G. Other activities are the various annual contests, the winners getting trophies and cups and a total of Rs.4350 in cash prizes every year.

H. A free squint camp (diagnostic and surgical) is held every year, usually in collaboration with the Rotary Club of Rajkot Midtown.

I. There is a fellowship (Rs.1000/pm) for members 35 years old or younger during their stay at Rajkot for practical experience. So far nobody has applied for it.

2. <u>About the Society</u>

(1) All India Strabismological Society (AISS) was *conceived and started* by Dr. H.L. Patney and Dr. Sudha Awasthi (now Patney) in 1967. The idea came to them during their participation in the founding session of the International Strabismological Association (ISA), which was held in 1966 at Giessen, W. Germany. Prof. Cuppers, one of the pioneers of pleoptics was the head of Ophthalmology at the Universitats Augenklinik (University Eye Clinic) there. Mr. Keith Lyle was the founding president and Dr. G.K. von Noorden, the founding secretary. Dr. Sudha Awasthi was one of the panelists and speaker at the ISA meeting.
One of the 4 aims of ISA is to spread the knowledge of the subject of strabismology. The other three are given on the inside of the front cover.

(2) The founding meeting of the society was held in Calcutta in 1967 during the AIOS conference. Neither Dr. Patney nor Dr. Awasthi wished to be the President. They asked Dr. L.P.Agarwal to be the first president and he accepted. Dr. Awasthi was the founding secretary and Dr. Patney the treasurer. Many senior and well-known ophthalmologists joined the society.

(3) The first regular meeting was held at Ahmedabad during the AIOS congress in 1968. At the executive committee meeting, a proposal to have the *society registered* was passed. This was done same year.

(4) The first activity of the new society was to hold a 7-days refresher course (workshop) on squint and other ocular motility disorders in September 1967 at Sitapur. It turned out to be very successful, probably because it was the first of its kind in India. Members who were mostly senior ophthalmologists attended it; some of them were fairly well known.

(5) Every year new elections were held and the management of the society changed hands. Somewhere around 1976 the society became defunct.
Note: Frankly speaking, I have recently realized that this is a drawback in the democratic system that a lovingly conceived and nurtured institution / organization may die a premature death if it falls into indifferent hands.

(6) *Revival of the society* was proposed during a meeting (of old members and some other ophthalmologists), that was hastily arranged at the request of Dr. Sudha Awasthi-Patney in 1981 just after the conclusion of Dr. Nagpal's very successful National Symposium on squint. It was decided to revive the society during the next conference of AIOS and Dr. Sudha Awasthi-Patney was asked to be the convener and do it. New and old members gave their names to be enrolled again.
Dr. Awasthi-Patney unfortunately failed to attend the next AIOS conference in 1982 due to the sudden serious illness of Dr, Patney. She requested Dr. B.T. Maskati, the Hon. Gen. Secretary of AIOS to make an announcement that Dr. Awasthi-Patney can not come now but she will be sending circulars

for a meeting of the society to be held later at Rajkot. She never knew what happened but Dr. Prem Prakash started a new society. It is no use going into the details now.

(7) At last the AISS was revived in 1996. At present there are 88 members but out of them only 29 *are members in good standing (having paid at least upto year 2001*). Only 11 members have paid for 2002.

3. *About the courses*

(a) *Fellowship*: It is a correspondence course. Theory part is sent in 15 installments of 50-100 pages each, either by **conventional mail or by E-mail**. The fellowship candidate can make the choice. Apart from the theory part, some practical experience has to be gained at the Orthoptic / Ocular Motility Clinic, Rajkot. The period of the practical experience has to be determined by the fellows themselves on the basis of their experience and expertise in the subject but a minimum of 1 month is preferable. The very minimum for somebody with some working knowledge of the subject is one week. When you attend the clinic you will realize that actually 1 week is not enough even for a workshop as those who attended the September 02 workshop found out.

(b) *Diploma* (to be started soon): Detailed information on request.

(c) *Certificate of* Proficiency: If the ophthalmologists / strabismologists wish to get some practical experience only, as many do, they are welcome. They will be given a testimonial (Certificate of Proficiency) for the period of their stay here. There will be no fees.

4. About the workshops / Refresher Courses

Some of the members who could not attend the September 02 workshop have asked me to hold another one soon. I shall see if it can be done. Summer would have been a good time if it was not for the severity of summer in Rajkot. It is the time when maximum number of surgeries are performed as children get a 2-3 months holiday from school but it is also the time when temperatures soar to 42-44 degrees C and the sun is very hot.

5. About InteRyc, the News-Letter-Update of the society:

(A) At present it is being published every three months. Previously it was coming out every two months. If we revive the Indian Orthoptic Journal that had been conceived by Dr. Sudha-Awasthi Patney and started with the help of Dr. J.M. Pahwa in 1963 at Sitapur, the InteRyc may have to be discontinued. We have an alternative plan also.

(B) It is sent free to every member of the AISS and JKAI but the subscription for membership must be sent every year for it to be economically viable.

6. About the **proposed revival** of the Indian Orthoptic Journal: We had sent an opinion poll form in the InteRyc volume3, 02. I am sorry to say we have received very few replies in the form of poll-forms completed and sent back).

Background of the Indian Orthoptic journal: Dr. Sudha Awasthi (Patney) was inspired greatly by her teacher Mr. T. Keith Lyle (read about him under the heading of "In fond memory" on the inside of back cover). He stressed the need of making the subject of strabismus popular among ophthalmologists and campaigning for early diagnosis in infants and children to prevent amblyopia. After coming back to Sitapur Eye Hospital in 1961, she conceived the idea of bringing out an Indian Journal of Orthoptics on the lines of the British Orthoptic Journal. Dr. J.M. Pahwa (who liked the idea and agreed to look after the practical aspect) and Dr. Awasthi (Patney) started the journal in 1963 and looked after it as the editor and the joint editor respectively until her departure from Sitapur in 1972. Dr. Pahwa continued publishing it until a few years back. About 3 years back he asked Dr. Sudha A. Patney if she would like to restart publishing the journal to which she replied in the affirmative. The journal would probably replace the InteRyc, as it will be difficult to publish both. The whole set-up has to change as for a good journal there has a managing editor assisted by an editorial board.

ATTENTION

1. *The CME quiz-No.*4, 2002 is included in this volume. Please answer it, cut along the dotted line and send it back by conventional mail. The answers to the CME quiz- No.3, 2002 are also included in this volume.
2. *The questions in each quiz* are drawn from the material given in that particular issue of the InteRyc under the headings of Strabismus Summary Series, Update, InformIT and Short Review article on Strabismus etc.
3. *Member of the year is chosen on the basis of overall performance during that year, including the answers to the quiz.*
4. The *update questionnaire* is printed on the back of the CME quiz. *Please do answer it if there is any change or addition in the information about phone No., FAX number, mobile phone number, pager number, E-mail address or a web-site address. When I try to call the members on phone I find that many numbers have been changed.*

5. *Fellowship course fees:* Now the total amount to be paid in one lump sum is Rs.1500 *including the mailing charges, if sent by conventional methods.* The mode of mailing each installment is either by registered A.D. post or by couriers, mostly by the latter as it is faster. However, couriers do not go to all the places. Moreover, once an installment sent by the courier did not reach a fellow and I sent another one by registered A.D. post. Now therefore, we prefer to send them by registered post despite more expense involved. The course installments can also be sent by Electronic mail. The **fee for the full course of 15 installments if sent by electronic mail is Rs.900 or US $25. It will be like a full book on Strabismology but much cheaper than similar books available at around $150-200 or more. Moreover, one has to read it through in order to be able to answer the questions at the end of each installment.**

6. *The usual procedure of sending the installments*: Installments are sent one by one accompanied by the relevant question paper. The fellow has to answer the questions and send the answer sheet back, on receipt of which the next installment of the course is sent. Previously the fees had to be sent for one installment at a time. This has been changed to save the fellow's time, effort and postal expenses. It is now payable in one lump sum, in advance in the form of a demand draft for Rs1500 **or $50 (for the course sent by conventional mail/courier) or Rs.900 (US $25) if sent by e-mail, in the** name of Dr. S.A. Patney, S/B account No.4256 at UCO bank. As explained in earlier InteRycs this is a no profit-some loss venture.

7. *The membership subscription for year 2003* became due on 1st January 2003. Members, who did not pay the subscription for the year 2002 by the end of December 2002 (the final extended date) will not be sent future InteRycs until their subscription is received. As soon as due subscription is received the InteRyc will be sent. This is because of financial constraints. Despite subsidizing the expenses we are finding it hard to keep afloat. The members, therefore, *are requested to send the subscription for 2002 and 2003 soon.*

Information about due subscription:

(a) *All the members who have not even paid for 2001 are requested to send three years subscription (for 01-03). It can be in the form of a demand draft for Rs.300 OR cheque for Rs.320, in the name of Dr. S.A. Patney, UCO bank S/B account No. 4256, Rajkot.*

(b) *Members who have paid for 2001 but not for 2002, are requested to send two years' subscription, as that for 2003 becomes due on the January 1, 2003. Please send DD for Rs.200 / cheque for Rs.220 only.*

(c) *Members who have paid upto 2002 but not for 2003, are requested to send one year subscription, as that for 2003 becomes due on the January 1, 2003. Please send DD for Rs.100 / cheque for Rs.120 only.*

NEWS

There are no news as I have not received any. The names of the prizewinners of the year 2002 will be published in the InteRyc volume 1. 2003.

Workshop 02

We regret that due to unavoidable circumstances this report is not ready to our satisfaction and will be published in InteRyc volume 1, 03. The aim to send this report is for it to be useful for the members in making day to day decisions in an ocular motility clinic, not just to report on an event.

COMING UP

1. 30/1/2003 - 2/2/2003**:** Current Concepts in Ophthalmology, Puerto Rico Meeting, Dorado, Puerto Rico; Sponsored by the American Society of Cataract and Refractive Surgery (ASCRS) and the Wilmer Eye Institute of Johns Hopkins University. Contact Lucy Santiago, ASCRS, (703) 591-2220.

2. 31/1/2003 - 1/2/2003**:** Glaucoma Summit 2003: Vision for the Fututre, Cleveland, OH; Sponsored by the Cleveland Clinic Cole Eye Institute. Contact Kelli Meeks, Education Coordinator at (216) 444-2010; fax: (216) 445-3676; e-mail: Meeksk@ccf.org.

3. 7/2/2003 - 9/2/2003**:** Seventh European Society of Cataract & Refractive Surgeons (ESCRS) Winter Refractive Surgery Meeting, Rome, Italy**;** *contact:* ESCRS, (353) 1-209-1100; Fax: (353) 1-209-1112; Email: escrs@agenda-comm.ie

4. 7/2/003 - 8/2/2003: Bascom Palmer Eye Institute Mid-Winter Glaucoma Symposium, Miami, FL; *contact:* Nancy Fernandez, Bascom Palmer Eye Institute, 900 NW 17 Street, Miami, FL 33136; Phone: (305) 326-6110; Fax: (305) 326-6417; Email: nfernandez@med.miami.edu.

5. 8/2/2003**:** Seventh Annual Glaucoma Symposium, San Francisco, CA; *For information*, contact Glaucoma Research & Education Group, 490 Post Street, suite 644, San Francisco, CA 94102; (415) 986-0835; fax: (415) 986-0876; e-mail: greg@glaucomausa.org.

6. 8/2/2003**:** The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, FL**;** contact the Association for Research in Vision and Ophthalmology, 12300 Twinbrook Parkway, ste. 250, Rockville, MD 20852; (240) 221-2900; fax: (240) 221-0370; e-mail: mem@arvo.org.

7. 13/2/2003**:** Australasian Society of Cataract & Refractive Surgeons (AUSCRS) 2002 Meeting, Capital Gains-Canberra, Australia; contact Prof. Ingrid Kreissig, MD, (49) 7071-29-8-50-64; fax: (49) 7071-29-52-09; e-mail: ingrid.kressig@med.uni-tuebingen.de.

8. 13/2/2003**:** South Pacific Educators in Vision Impairment Biennial Conference: "An Eye to the Future," Gold Coast, Australia**;** contact the Conference Secretariat, P.O. Box 3496, South Brisbane Q 4101, Australia; (61) 7-3844-1138; fax: (61) 7-3844-0909; e-mail: spevi2003@icms.com.au.

9. 13/2/2003 - 15/2/2003**:** American College of Eye Surgeons' Quality Surgery XVII Program, "Ophthalmology 2003...United in Quality," Kissimmee, FL; contact Continuing Education, Inc. at (800) 422-1571; e-mail: contactus@continuingeducation.net.

10. 14/2/2003: Redefining Glaucoma and its Management in the 21st Century, Baltimore, MD; contact Nancy K. Cook at (410) 328-5929; fax: (410) 328-6346; e-mail: ncook@aol.com

11. 14/2/2003 - 16/2/2003**:** New Orleans Academy of Ophthalmology's 52nd Annual Symposium: At the Crossings - An Update on Amblyopia, Strabismus, Cataracts, Oculoplastics and Refractive Surgery, New Orleans, LA; contact Amber Howell at (504) 899-9955; fax: (504) 899-4948; e-mail: ahowell@noao.org

12. 14/2/2003 - 16/2/2003**:** Fourth International Congress of Wavefront Sensing and Aberration-Free Refractive Correction, San Francisco, CA; *contact:* COR Communications, Phone: (760) 603-1171; (760) 603-1181; Email: corcocommun@aol.com

13. 15/2/2003 -16/2/2003**:** Sixth Annual Ocular Drug & Surgical Therapy Update Meeting, Dana Point, CA; at the St. Regis Monarch Beach. Contact: Registration Manager toll-free, 1-877-307-5225; phone: (856) 848-1000; e-mail: meetingregistration@slackinc.com

14. *6/3/2003 - 9/3/2003**:** American Glaucoma Society Annual Meeting, San Francisco, CA,* contact Denise De Losada Wilson, American Glaucoma Society, P.O. Box 193940, San Francisco, CA 94119-3940; (415) 561-8587; fax: (415) 561-8531; e-mail: ags@aao.org.

15. 18/3/2003 - 1/4/2003**:** 24th Pan-American Congress of Ophthalmology, San Juan, Puerto Rico. *Contact:* Spectrum Negroni & Associates, Phone: (787) 708-2100; Email: mjlandrau@spectrumdms.com

16. *18/3/2003 - 22/3/2003**:** American Society of Cataract and Refractive Surgery 2005 Annual Symposium and Congress, San Francisco, CA,* contact ASCRS, 4000Legato Rd., Ste. 850, Fairfax, VA 22033; (703) 591-2220; fax: (703) 591-0614; e-mail: ascrs@ascrs.org.

17. 19/3/2003 - 23/3/2003: *Fourth Annual International Glaucoma Symposium (I.G.S.), Barcelona, Spain;* contact the Symposium Secretariat, Kenes International, 17 Rues du Cendrier, P.O. Box 1726, CH-1211, Geneva 1, Switzerland; (41) 22-908-0488; fax: (41) 22-732-2850; e-mail: glaucoma@kenes.com.

18. *21/3/2003 - 23/3/2003: International Vision Expo, New York, NY;* contact Liz Lollis, Registration Manager, (203) 840-5954; fax: (203) 840-9954; e-mail: elollis@reedexpo.com

19. *12/4/2003 - 16/4/2003**:** American Society of Cataract and Refractive Surgery 2003 Annual Symposium and Congress, San Francisco, CA,* contact ASCRS, 4000Legato Rd., Ste. 850, Fairfax, VA 22033; (703) 591-2220; fax: (703) 591-0614; e-mail: ascrs@ascrs.org;.

20. *1/5/2004 - 5/5/2004**:** American Society of Cataract and Refractive Surgery 2004 Annual Symposium and Congress, San Diego, CA;* contact ASCRS, 4000Legato Rd., Ste. 850, Fairfax, VA 22033; (703) 591-2220; fax: (703) 591-0614; e-mail: ascrs@ascrs.org.

21. *2/5/2003 - 3/5/2003: First Annual International Society for Imaging in the Eye Meeting, Fort Lauderdale, FL,* contact: Registration Manager, toll-free 1-877-307-5225; phone: 856-848-1000; e-mail: meetingregistration@slackinc.com

22. *22/5/2003 - 24/5/2003: 8th Annual Florence Symposium on Cataract, Glaucoma and Refractive Surgery, Florence, Italy***,** contact: Registration Manager, toll-free 1-877-307-5225; phone: 856-848-1000; e-mail: meetingregistration@slackinc.com

23. *22/5/2003 - 24/5/2003**:** International Joint Meeting of the Italian Society of Ophthalmology, the Italian Association of Cataract and Refractive Surgery and OCULAR SURGERY NEWS, Florence, Italy,* contact: Registration Manager, toll-free 1-877-307-5225; phone: 856-848-1000; e-mail: meetingregistration@slackinc.com

24. *6/6/2003 - 7/6/2003**:** First Annual Ocular Surgery News Symposium Glaucoma: Improving Your Odds, Las Vegas, NV.* It is to be held at The Venetian Casino Resort. Contact: Registration Manager toll-free: 1-877-307-5225; phone: 856-848-1000; e-mail: meetingregistration@slackinc.com

25. *15/11/2003 - 18/11/2003: American Academy of Ophthalmology 107th Annual Meeting, Anaheim, CA; For information*, contact the AAO, P.O. Box 7424, San Francisco, CA 94120-7424; (415) 561-8500; fax: (415) 561-8533; e-mail: meetings@aao.org.

26. *ONGOING: Axial Eye Length Biometry, Flourescein Angiography, Diagnostic B-Scan, and Visual Field Fundamentals, San Francisco, CA; contact:* Denice Barsness, CRA, COMT, ROUB, EyeQ Education, 2060 Sutter Street #306, San Francisco, CA 94115; Phone: (415) 921-8595; Fax: (415) 775-8826; Email: denicebars@worldnet.att.net .

STRABISMUS SUMMARY SERIES PART XVIII

In this XVIII part of Strabismus Summary Series the topic of "Getting familiar with orthoptic instruments is continued.

Getting familiar with orthoptic instruments: Part 4

This series will not only deal with instruments for use in orthoptic / ocular motility clinics / strabismologists' offices but also in those ophthalmologists' offices who are even slightly interested in diagnosing strabismus and other ocular motility disorders.
I wonder if it ever occurs to the ophthalmologists that very often they have not been able to help their patients suffering from eyestrain because they could not diagnose that the cause was a muscle imbalance and not glasses only.
We shall now take up the instruments one by one to give a brief description of each of them (please refer to the list of instruments that was given in InteRyc volume 4, 2001 on page 9). In the following text we shall describe in short the more useful and the more commonly used instruments named in the list.

Maddox Rod

- **This is another instrument based on diplopia principle. One object (a small light) is seen double. The second image is in the form of a red line, which is perpendicular to the grooves and rods of the Maddox Rod.**
- **Used in cases of heterophoria, it is quite handy, easy to use and reliable in cases with normal retinal correspondence.**
- All three types of heterophoria, horizontal, vertical and torsional, can be measured with Maddox Rod.

Description: The device is quite small, made of glass consisting of multiple rods. The whole thing is fitted in a round frame. It easily fits in a slot in the trial frame and is the size of trial lenses. The usual color is red, which is preferable to white that is used much less often.

Uses:

1. One Maddox Rod used in conjunction with prisms to measure the degree of heterophoria, both vertical and horizontal.
2. Two Maddox Rods are used to measure cyclophoria
3. It can give an idea of the type of retinal correspondence (if there is a manifest deviation but the patient says the line is in front of the light there is obviously abnormal retinal correspondence of the harmonious type.

Methods:

1. To measure heterophoria:
   (1) The measurement is done fixing each eye in turn. The eye that looks at the light is the fixing eye. The eye that looks through the Maddox Rod is the deviated eye. The usual routine is to measure the deviation fixing the right (RE) fixing first. That means the deviation of the LE is being measured. This is followed by measurement of the deviation of the right eye (while the LE is fixing).
   (2) To measure horizontal heterophoria the Maddox Rod is placed with its grooves vertical, in front of the nonfixing eye, which is usually the left eye while the patient looks at a small (muscle) light at 6 meters distance through RE.
   (3) The patient is asked whether he can see a vertical red line (with the red Maddox Rod).
   (4) If the answer is in the affirmative, he is asked which side of the light the red line is seen.
   (5) If he sees the line on the left (opposite) side of the light when RE is fixing, that is, if the images are crossed there is *exophoria*, if on the other hand the line is to the right (same) side (uncrossed diplopia), there is *esophoria*. The diplopia is produced when the two eyes are dissociated by placing Maddox Rod in front of one eye.

(To be continued)

UPDATE

Note: Update contains abstracts/short outline of the articles that are of clinical interest and that have been recently published in the medical/ophthalmic literature.

Update-General ophthalmology

1. *LASEK results (Feit R, Taneri S, Azar DT, Chen CC, Ang RT: Ophthalmol Clin North Am 2003 Mar;16(1):127-35, viii):* In this article, the authors present the visual outcomes and complication rates of LASEK based on the retrospective case review of 101 consecutive patients (163 eyes) treated with LASEK surgery over the past 6 years. They point out that Laser subepithelial keratomileusis (LASEK) has become a viable alternative to photorefractive keratectomy (PRK) and laser in situ keratomileusis (LASIK) in selected patients. RESULTS: Seventy-eight percent of the eyes operated on showed complete epithelial healing by day 3, and there were no incidents of recurrent erosions. As with LASIK, the achieved correction for LASEK was greater than the treatment dose (requiring undercorrection nomogram adjustments). Mean logMAR UCVA was 0.03 (20/20) at 1 year. CONCLUSION: LASEK may decrease the complications associated with PRK, including postoperative pain and slow visual rehabilitation. LASEK seems to be a safe and effective option for patients who request refractive surgery.

2. *New developments in corneal and external disease--LASIK (Dhaliwal DK, Mather R: Ophthalmol Clin North Am 2003 Mar;16(1):119-25):* In this article the authors discuss the two main components of LASIK: flap creation and stromal ablation. In each of these areas, the authors explored current technology and new advances, including the femtosecond laser and wavefront-guided ablations. They point out that lamellar refractive surgery has evolved into LASIK, which is a widely performed, versatile procedure with a high patient acceptance. Expanded indications and therapeutic application of LASIK also have come to the forefront. The treatment of anisomyopic amblyopia in the pediatric population is a prime example and was discussed fully in this chapter.

Update- Strabismology

1. *Binocular visual function in congenital esotropia after bilateral medial rectus recession with loop suture (Uretmen O, Pamukcu K, Kose S, Ucak E: Strabismus 2002 Sep;10(3):215-24):* This study aimed at evaluating the binocular functions in congenital esotropia after bimedial rectus recession with loop suture and to discuss the factors that could take part in the attainment of binocular function. RESULTS: Out of 40 patients of age groups 2-10 years who underwent surgery, 52% CONCLUSION: According to the authors not all infants with congenital esotropia may have the potential for normal binocular function owing to yet unknown constitutional factors. They concluded that achieving some degree of binocular function may be related to early alignment of the eyes. Factors that enhance the attainment of binocular sensory function are close follow-up and adequate treatment of the accompanying vertical deviation, especially inferior oblique overaction and dissociated vertical deviation.

2. *Modified Harada-Ito procedure in bilateral superior oblique paresis (Roberts C, Dawson E, Lee J: Strabismus 2002 Sep;10(3):211-4):* The authors carried out a *retrospective review of 23 patients treated bilaterally with Fells' modification of Harada-Ito procedure for bilateral superior oblique palsy between 1989 and March 2000.* CONCLUSION: In these patients bilateral modified Harada-Ito procedures successfully reduced torsion and decreased symptoms. Many patients require subsequent surgery to improve other aspects of their motility problem.

3. *The influence of eye muscle surgery on shape and relative orientation of displacement planes: Indirect evidence for neural control of 3D eye movements (Bosman J, ten Tusscher MP, de Jong I, Vles JS, Kingma H: Strabismus 2002 Sep;10(3):199-209):* In this study the authors tried to determine if the Listing's law is a consequence of 2D control of eye positioning, where eye torsion is determined by the biomechanical properties of the orbit, or if it is a reflection of full 3D neuronal control? This was investigated by observing the influence of a change in mechanical properties of the eye socket on 3D eye movements. The shape and relative orientation of displacement planes were measured using scleral search coils before and after operation of five patients with strabismus. The operation influenced the shape of displacement planes in both eyes of all patients. After the operation, most patients

obeyed Listing's law more accurately: a monocular, surgically induced, orbital change caused binocular improvements of torsional control. The relative orientation of planes also changed, but no clear relationship was found between the type of operation and the direction of rotation. The results suggest that Listing's law is not just a result of the biomechanical properties of the eye socket, but has a neural basis.

4. *Infant vision screening predicts failures on motor and cognitive tests up to school age (Atkinson J, Anker S, Nardini M, Braddick O, Hughes C, Rae S, Wattam-Bell J, Atkinson S: Strabismus 2002 Sep;10(3):187-98):* The authors report the results of a longitudinal study comparing infants with significant hyperopia, identified at age 9 months ('hyperopes') with infants with normal refractions ('controls'). In a population-based infant vision screening programme, 5295 infants were screened and those with significant refractive errors were followed up to 5.5 years of age. RESULTS: Hyperopes performed significantly worse than controls. Infants who were amblyopic and strabismic, were excluded from the study. However, this did not affect the final results, suggesting that the differences between groups were not due to these disorders.CONCLUSION: The results of this study indicate that early hyperopia is associated with a range of developmental deficits that persist at least upto age 5.5 years. These effects are concentrated in visuocognitive and visuomotor domains rather than the linguistic domain.

InformIT

By: Mr. Sameer Shah, Technical IT advisor to the JKA Institute of Strabismology

(NOTE: Mr. Shah is a teacher at the NIIT, Rajkot, one of the famous institutions that is imparting training in the subject of Information Technology (IT). He was my teacher at NIIT. We are fortunate to have his help in this series on IT. Here he describes, in short, Telephony. This first part has the general information. In the next, second part he will describe Internet telephony.

How telephony works

Now a days telephony word is in common use because the government has regularized the telephony. Using Internet, it is very easy for any one to call out side India at as low a rate as Rs. 5 per minute. Here we shall discuss something about how it is actually possible, in some technical detail.

First we shall take up conventional telephony, which we are using in our day to day life.

When we make a telephone call, the telephone exchange establishes an exclusive connection to the number we dial. While we're having the conversation, anybody else trying to dial either party will get an 'engaged' tone.
This is because of a circuit-switched network to exchange. It establishes an exclusive and continuous physical connection between two parties. Circuit-switched technology itself has evolved quite a bit. Telephony started with cardboard switches where an operator manually connected two parties through a cord. From there, it moved on to SxS systems,

also called the Strowger exchanges, named after its inventor. These were electromechanical in nature. After this came the crossbar exchanges, which are still being used in many countries. Crossbar used electromagnetic principles. Today, electronic telephone exchanges are fairly common, which are more compact and powerful, and convert voice into digital signals for transmission.

Digitizing sound is an interesting process. When we make a telephone call, our voice is first converted into analog electrical signals. This signal is then encoded into digital format using a technique called PCM (Pulse Code Modulation). This technique takes samples of the analog signals at a rate of 8,000 samples per second. Each sample therefore represents 125 microseconds of a voice stream, and is eight bits, or one byte long. This signal is then carried over high-speed digital lines and again decoded into an analog electrical signal at the receiving end. The analog signal is finally converted into the original sound.
Speaking of sound, any conversation consists of two components-sound and silence. When the digital sound signals are transmitted over a circuit switched network, both components have to be sent. Not only that, but the order of transmitting signals also has to be retained, else quality of transmission suffers. That's why all equipment in a circuit-switched network must be highly synchronized using expensive TDM (Time Division Multiplexing) equipment. Since sound and silence are both transmitted, a lot of bandwidth gets wasted in circuit-switched networks. In fact, one voice conversation requires a 64 KBPS channel, which is quite a lot of bandwidth.

(To be continued. Next time we will discuss about telephony on Internet)

SHORT REVIEW ARTICLE ON STRABISMUS

Nystagmus is the subject of the short review article on strabismus and related anomalies. It is being presented as a series in three parts. The first part appeared in InteRyc volume 3, 02. Second part will be covered in this volume 4, 02. The references will be given at the end of the third part in the InteRyc volume 1, 03.

Nystagmus part 2:

Other compensatory / dampening / blocking mechanisms

1. *The Nystagmus blockage syndrome* described earlier is just one of several mechanisms being used in different patients of nystagmus. In nystagmus blockage syndrome convergence is used to block /dampen / compensate the nystagmus.
2. *There is another condition* in which dampening of nystagmus by convergence innervation takes place. Cases of *intermittent divergent squint* have been described in which there was nystagmus with exotropia. When the exotropia was overcome by exerting fusional convergence nystagmus disappeared. On occlusion of one eye, however, as on a cover test, exotropia was precipitated along with a return of nystagmus. These cases should not be confused with those of latent nystagmus. This implies that if the exodeviation is under-corrected in these patients, fusional

convergence will be able to control the exotropia and consequently the nystagmus most of the time.

3. *Dampening by versions* is quite commonly seen. The nystagmus has its null point in one direction where it disappears or becomes significantly less. In the opposite direction the nystagmus becomes exacerbated. The lessening of nystagmus may happen in more than one direction.

Acquired nystagmus

It has already been mentioned that all cases of acquired nystagmus should be referred to neurologist / neuro-ophthalmologist for management. However, before this can be done the strabismologist has to be able to diagnose these cases. A single well-defined null-zone is almost never seen in cases of acquired nystagmus. The main features of some of the types of acquired nystagmus are given below.

The various types of Acquired nystagmus

The strabismologist mostly has to deal, almost exclusively, with congenital nystagmus. Cases of acquired nystagmus are usually referred to a neurologist for investigations and treatment. However, a few selected types of acquired nystagmus are summarized below.

The symptoms in a case of acquired nystagmus are quite marked and can be disabling. For this reason the strabismologist / ophthalmologist has to have a broad idea of how to manage the case until it is referred or in association with a neurologist.

1) Periodic alternating nystagmus
2) See-Saw nystagmus
3) Vestibular nystagmus
4) Upbeat and downbeat nystagmus
5) Oculopalatal myoclonus
6) Opsoclonus
7) Others

Each of them is described in short in the following text.

Periodic alternating nystagmus

This type of nystagmus is usually caused by acquired lesions of posterior fossa. Main features are:

- *Etiology*: It can be congenital or acquired. The various causes mentioned are as follows: Congenital Ideopathic, congenital hydrocephalus, posterior fossa lesions, Arnold Chiari syndrome and myelomeningocele.[56 and 58] Causes mentioned[59] by other authors are: (1) Congenital, (2) Vestibulocerebellar diseases like strokes, multiple sclerosis, Arnold Chiari malformation and spinocerebellar degeneration, (3) Bilateral

severe loss of vision (advanced cataracts, vitreous hemorrhage, optic atrophy etc.), (4) Cruetzfeldt-Jacob disease and (5) Anticonvulsant therapy.

- *Clinical features*: Jerk nystagmus while eyes in primary position. Fast phase to one side for a certain period, usually for about 2 minutes, followed by the fast phase[58] to the other side for about 2 minutes. This cycle is repeated every 4 minutes. The nystagmus is horizontal in horizontal as well as vertical planes, that is to say, it is unipolar. There may be a periodic CHP accompanying the nystagmus, to decrease it. The CHP changes from one to the other side according to the side of the fast phase of nystagmus.

- *Differential diagnosis*: It should be differentiated from cases of congenital nystagmus with a null zone in both the horizontal directions, dextroversion and levoversion[57]

- *Treatment*: Improvement of vision by surgery if indicated may get rid of nystagmus.

See-Saw nystagmus:

The main features are:

- Etiology: 1) Frequent association with suprasellar space occupying lesion, bitemporal hemianopia and loss of vision, 2) Head injury, 3) Midbrain stroke, 4) Arnold Chiari malformation, 5) Multiple sclerosis and 6) Congenital.
- Clinical characteristics: 1. Pendular nystagmus, 2. A conjugate rotary (torsional nystagmus co-exists with disjugate vertical component). One eye elevates and intorts, the other depresses and extorts. Occasionally reverse is true in congenital See-Saw nystagmus.
- Has been reported to occur along with retinitis pigmentosa, oculo-cutaneous albinism and optic nerve hypoplasia[58].

Vestibular nystagmus[59]

Etiology of vestibular nystagmus: Defects of (1) Vestibular end organs, (2) The nerve nuclear complex or the (3) Brain stem connections.

Types: 1) Peripheral vestibular nystagmus, 2) Central vestibular nystagmus

1) *Peripheral vestibular nystagmus*

Etiology: Labyrinthitis, neuritis, trauma, vascular ischemia, Meniere's disease, toxicity and benign paroxysmal positional vertigo. In rare cases noises induce peripheral vestibular nystagmus (Tullio phenomenon).
Clinical characteristics of vestibular nystagmus: The main features are given below:

- A mixed type of nystagmus, usually horizontal and rotary (torsional)
- Primary position jerk nystagmus
- Maximum amplitude when the gaze is in the direction of fast phase (Alexander's law)
- Nystagmus is suppressed by attention (fixation of an object of attention), increased by inattention (when fixation is removed)
- Fast phase away from the direction of the diseased end organ
- Frequently associated with tinnitus, deafness and vertigo
- Labyrinthine disease usually causes suppression of labyrithine input. Putting water in the ear leads to the same effect (as in the cold water caloric test). Water in the left ear produces the same effects as left labyrinthine disease.

Natural history of peripheral vestibular nystagmus: Usually it resolves within a few days to a few weeks by central compensation of the asymmetric vestibular input and / or visual suppression.

2) *Central vestibular nystagmus*

Etiology: Brainstem lesions like trauma, space-occupying lesions (SOL), Demyelinating diseases and stroke (refer to downbeat, upbeat and periodic alternating nystagmus) also.

Clinical characteristics:

- ✓ Jerky nystagmus that may change its direction on change in gaze or on exertion of convergence
- ✓ Vertical / horizontal /rotary (only one of them, the most common being vertical). It is a unidirectional nystagmus.
- ✓ No significant effect of attentiveness (fixation). Removal of effect of fixation as with high plus lenses, Fresnel prisms or goggles does not make much difference.
- ✓ Usually long standing
- ✓ Linear, increasing or decreasing velocity slow phase on nystagmography
- ✓ Romberg direction of fall does not vary with head position

Downbeat nystagmus

Etiology:

1) *Lesions at the craniocervical* junction, e.g., Arnold Chiari syndrome, Paget's disease
2) *Brain stem lesions, such as hydrocephalus* with increased intracranial pressure, multiple sclerosis, cerebellar degeneration, brainstem stroke, cerebellar space occupying lesions, head injuries
3) *Toxic and metabolic causes*: Lithium toxicity, magnesium deficiency, vitamin B12 deficiency, Wernicke's encephalopathy and anticonvulsants.
4) Can be *congenital* in some cases.

Clinical characteristics:

⇒ In primary position the fast phase is downwards
⇒ Downbeat nystagmus is not uncommonly more marked in downward lateral gaze.

Upbeat nystagmus

Etiology:

The main causes of upbeat nystagmus are: brainstem lesions, such as multiple sclerosis, cerebellar degeneration, brainstem stroke, posterior fossa lesions, Wernicke's encephalopathy. Could be congenital in some cases.

Clinical characteristics of upbeat nystagmus

- In primary position and lateral gaze the fast phase is upwards.
- Amplitude may be small or large.

Convergence-Retraction nystagmus

Etiology:[58] It is one of the various components of Dorsal midbrain syndrome, as briefed below:

1. Convergence-Retraction nystagmus
2. Defective vertical gaze, particularly elevation
3. Lid retraction (Collier's sign)
4. Spasm or paresis of convergence
5. Spasm or paresis of accommodation
6. Dissociation between the pupillary reflex to light and near vision
7. Skew deviation

Relationship between age and etiology: J. Lawson Smith has suggested the following etiology for the various age groups (decades):
(1) 0 (Infant): Congenital stenosis of aqueduct
(2) 10 years: Pinealoma
(3) 20 years: Head injury
(4) 30 years: Vascular malformation in the brainstem
(5) 40 years: Multiple sclerosis (M.S.)
(6) 50 years: Basilar artery stroke

Clinical characteristics of Convergence-Retraction nystagmus

✞ It is a jerky type of movements that are combinations of convergence and retraction
✞ It is more marked on attempted convergence or elevation

- ✞ It is due to co-contraction of extraocular muscles
- ✞ It is best seen when the optokinetic targets are moved downwards so that upward saccades are produced.

Spasmus Nutans

Etiology: (1) Congenital / infantile (2) Acquired monocular has been reported as an initial sign of anterior visual pathway glioma.

Clinical characteristics of Spasmus Nutans:

- ♦ There is triad of head turn, head nodding and nystagmus.
- ♦ Starts in the first 18 months of life and goes away within the first decade.
- ♦ Horizontal or vertical
- ♦ Low amplitude high frequency nystagmus of pendular type
- ♦ May be unilateral or bilateral
- ♦ When bilateral, can be of different amplitude
- ♦ Amplitude and phase may be different in each eye.
- ♦ Patients with acquired monocular nystagmus must be investigated properly. MRI should be done to rule out a lesion of anterior visual pathway, particularly a glioma.

Voluntary nystagmus

Etiology: It is found in hysterical people or malingerers.

Clinical characteristics

- Fast (10-20 beats per seconds) and short-lived nystagmus, which can not be sustained for more than 30 seconds.
- Often accompanied by facial grimacing, lid fluttering and convergence.
- If the patient is asked to change the direction of gaze the nystagmus can be momentarily stopped.

Rebound nystagmus

Etiology: Brain stem and cerebellar disease.

Clinical characteristics

Usually seen in one of the two forms described in short below:
(1) Gaze-evoked nystagmus that is followed by a jerk nystagmus with the fast phase towards the PP.

(2) Jerky nystagmus that occurs when eyes come back to PP after sustained lateral (eccentric) gaze.

Saccadic intrusions and oscillations

The function of saccades is to facilitate foveal fixation of the object of attention / fixation. When they do not fulfill this function they are abnormal and unwanted and therefore termed "saccadic intrusions". If they occur repeatedly they may cause ocular oscillations. Some of them are listed below with their main features.

Opsoclonus

- *Etiology*: There are various causes, some of them being: (a) *In infants*: Neuroblastoma and autoimmune encephalitis (treatable with ACTH). (b) *In infants and adults*: It may occur as a benign self-limited ocular problem due to parainfectious encephalopathy. (c) Optoclonus may be due to a remote effect of cancer of lung, viscera, breast or ovaries. Rarely, it may be due to toxicity or hyperosmolar coma.
- *Clinical characteristics*: Optoclonus is also known as "Saccadomania". It is multivectorial or multidirectional (horizontal, vertical and diagonal). It is involuntary, rapid, conjugate, fast and unpredictable (chaotic or irregular). It stops during sleep. There is no intersaccadic interval. Before total recovery ocular flutter often replaces opsoclonus. In cases of infants with neuroblastoma opsoclonus is accompanied by myoclonus and ataxia. It is therefore also known as "dancing eyes and dancing feet".

Oculopalatal myoclonus

- Note: Ocular myoclonus is called oculopalatal myoclonus, if accompanied by contractions of palate (sometimes those of face, pharynx, diaphragm or extremities)
- *Etiology*: A lesion in the triangle of Guillain and Mollaret (see * below) causes it. A hypertrophy of the inferior olive is responsible for it. It is not an acute lesion. There is a latent period of 2-49 months.
- *Clinical characteristics*: It is usually a slow vertically pendular nystagmus (about two cycles per second). There may be synchronous contractions of other organs like palate and / or face, pharynx, diaphragm and extremities as enumerated above. These movements may persist during sleep.

*Triangle of Guillain and Mollaret is formed by the red nucleus, ipsilateral olive and contralateral dentate nucleus.

Ocular dysmetria

- *Etiology*: Often the cause is cerebellar disease.
- It is one of the various types of gaze-evoked nystagmus.

- The eyes overshoot when they come back to primary position from a side gaze.
- When the eyes change fixation they overshoot the mark and it is only after a few oscillations that they come to the fixation object. This phenomenon is for the eyes as past-pointing is for extremities.

Clinical characteristics: There is nystagmus in side gaze (eccentric gaze). When the gaze is returned to primary position (PP) the eyes overshoot the mark (primary position). This overshoot (hypermetria) occurs every time the eyes come back to PP or any other new fixation point. It is followed by several oscillations before the eyes come to rest.

Ocular bobbing

Etiology: (1) Massive pontine lesion like hemorrhage, infarct or malignant tumour. The patient is usually comatose. (2) Metabolic encephalopathy (3) Obstructive hydrocephalus
Clinical characteristics

- Fast, conjugate downward eye movements followed by a slow upward drift back to the PP.
- Generally in these patients reflex / spontaneous / doll's eye horizontal movements can not be demonstrated.

Other types of ocular bobbing are:

- 1) Reverse: *Etiology*: Metabolic encephalopathy. Can also accompany ocular bobbing. *Characteristics*: Upward movements followed by slow downward drift back to PP.

- 2) Inverse: *Etiology*: Ischemic brain stem lesion or metabolic disorder, also known as "Ocular dipping". Clinical characteristics: Slow conjugate downward eye movements followed by quick saccades back to PP after some delay.

- 3) Converse: It is also known as reverse ocular dipping. *Etiology*: Aids, pontine infections. *Clinical characteristics*: Slow upward eye movements followed by rapid return to PP.

Ocular flutter

- They are unidirectional (purely horizontal)
- It occurs when the patient tries to fix in the PP, in the shape of spontaneous and intermittent bursts of a few (3-4) back to back saccades.
- There is no intersaccadic interval as is seen in cases of square wave jerk nystagmus.
- It may be accompanied by ocular dysmetria.

Investigations in a case of nystagmus

1. *Routine ophthalmologic examination, particularly fundus and refraction*: Usually the fovea is ill developed in cases of congenital nystagmus. Refractive error is found in many cases. Occurrence of esotropia is usual in cases of latent or latent-manifest nystagmus. However, it is unusual in cases of manifest nystagmus. If nystagmus is associated with oculocutaneous albinism, a very common occurrence, the retina shows a lack of pigment giving it a typical look of an albino fundus.

2. *Visual acuity*: As elaborated earlier, uniocular and binocular visual acuity for near and distance, with and without compensatory head posture (CHP) should be taken in every case of nystagmus. Visual acuity is always reduced to various extents. The reasons may be more than one, underdevelopment of fovea, nystagmus amblyopia, insufficiency of foveation periods, presence of ametropic amblyopia, strabismic amblyopia and visual deprivation amblyopia etc. Binocular visual acuity may be better than uniocular, particularly if manifest nystagmus is associated with a latent one. The latter manifests when one eye is covered and exacerbates the manifest nystagmus already present.

3. *Orthoptic* check-up to determine the state of binocularity. If the nystagmus has a null point in the periphery a trial with prisms is indicated to find out if they can reduce the nystagmus in PP by moving the null point to the center or by stimulating the convergence reflex by interposition of base out prisms.

4. *Electronystagmography* is the recording of nystagmus. As already indicated it helps in differentiating the types of nystagmus when there is a doubt.

5. *Neurological investigations* should be carried out in cases of acquired nystagmus (See case report 51-1). The patient therefore is referred to a neurologist or neuro-ophthalmologist.

Case report 1
A young man came to us a few years ago who had suddenly developed fast mixed nystagmus (vertical with a rotary element). He was also unsteady of gait. He was referred to a local neurologist who in turn referred him to a large hospital in another town. Although I had requested his relatives to let me know about his progress, they never did that. Later I came to know that the patient had died a few days later!

Treatment of nystagmus

A. Conservative
B. Surgical

Aims of the treatment of nystagmus are as follows:

1. To stabilize the eyes so that the patient can have a better visual acuity
2. To shift the null point (the direction in which the nystagmus is least) to the primary position if it is situated on one side, say, the right and an anomalous head posture has to be adopted to place the eyes in that zone
3. To decrease the oscillopsia

A. *Conservative treatment*

a) Spectacles and contact lenses
b) Concave (minus) lenses
c) Prisms
d) Drugs
e) Acupuncture and biofeedback

a) Spectacles and contact lenses:

Spectacles: I have found the incidence of refractive errors in cases of nystagmus quite high. Any significant refractive error must be corrected to give the patient maximum improvement of visual acuity. I have often observed a decrease in nystagmus after the correction of significant refractive errors. Other ophthalmologists have also reported dramatic improvement of nystagmus after correction of refractive error[13].
Note: Retinoscopy should be done in the null point position.

Contact lenses: *Lessening of nystagmus has been reported[14, 15] by the use of contact lenses. They have the advantage of moving with eye so that the visual axis coincides with the optical center of the lenses. Apart from the improvement of visual acuity obtained with the corrective contact lenses, Dell' Osso and associates think that apart from improvement of visual acuity there is some kind of tactile feedback from the contact lenses.*

b) Concave (minus) lenses

Overcorrection of myopia with minus lenses stimulates convergence, which in turn has a nystagmus dampening effect. The latter leads to improvement in visual acuity.[13]

c) Prisms

Prisms can fulfill all the three aims mentioned above. This to say that in selected cases they can improve visual acuity, reduce oscillopsia and improve head posture. The null point can be shifted to the primary position by appropriate prisms. The various ways in which they can help are:

I. If binocular vision is present: base out prisms stimulate convergence that has a dampening effect on nystagmus and thus it brings about improvement of visual[16,

[17] acuity by decreasing the nystagmus. While this therapy is favored by some workers[1] others have found encouraging results in a few cases only.[18]

II. To improve the head posture the null point has to be shifted to the primary position. This is done by placing the prisms base out towards the direction away from the direction of null point. Thus if the nystagmus is minimum in levoversion (null point) the head turn will be to right. In such a case the prisms are prescribed with base towards the right side. In the right eye the prisms are given base out and in left eye base in. The power of the prisms depends on the amount of the shift we desire.

d) Drugs

There are two types of uses of drugs in cases of nystagmus as described in short in the following text.

Systemic medication

Systemic use of drugs for nystagmus is not popular. Alcohol, barbiturates, tranquilizers and Baclofen have been tried by various workers from time to time but all of them have a common drawback, that of side effects making it difficult to continue treatment for long periods.[49]

The most often used drug is *Baclofen*, which is used for the following types of nystagmus:

A. Congenital nystagmus[51]
B. Sea-Saw nystagmus[52]
C. Periodic alternating nystagmus[53]

Pharmacological denervation:

Injections of Botulinum A given every 1-3 months have been used.[50] The drawback here is that the effect does not last long and injections have to be repeated at 1-3 month interval.

Dose: 20-25 units of Botulinum toxin A are injected as follows[54]:

Two options are available:

(1) Injection into individual muscle under guidance with electromyographic machine. All the four rectus muscles are injected.
(2) Retrobulbar injection.

Side effects / complications of pharmacological denervation:

a) Diplopia resulting from unequal palsy of the various extraocular muscles.
b) Ptosis is a common problem resulting from this therapy. It is particularly severe and longer lasting after a direct injection into the superior rectus muscle.

Advantages of the retrobulbar injection (over those of direct injection into the muscles)[54] are given below:

1. No special equipment (like electromyographic machine and special electrodes) is required.
2. A specialist is not required. Any ophthalmologist can give the R/B injection.
3. The technique of retrobulbar injection is known to every ophthalmologist.
4. Chances of side effects like ptosis and diplopia are more common in the case of direct injection into the muscle.
5. The side effects are stronger and longer lasting because of a more severe palsy that results by the injection of the toxin directly into the muscle.

e) Acupuncture and biofeedback

Acupuncture and biofeedback have been mentioned in one of the recently published books on strabismus[54] but no details have been given. The only comment made is:

"Acupuncture and biofeedback have been claimed to improve visual acuity and lessen nystagmus but no peer reviewed reports have substantiated these anecdotal reports".

(Note: The third and last part of this series on nystagmus will be continued in InteRyc volume 1, 2003)

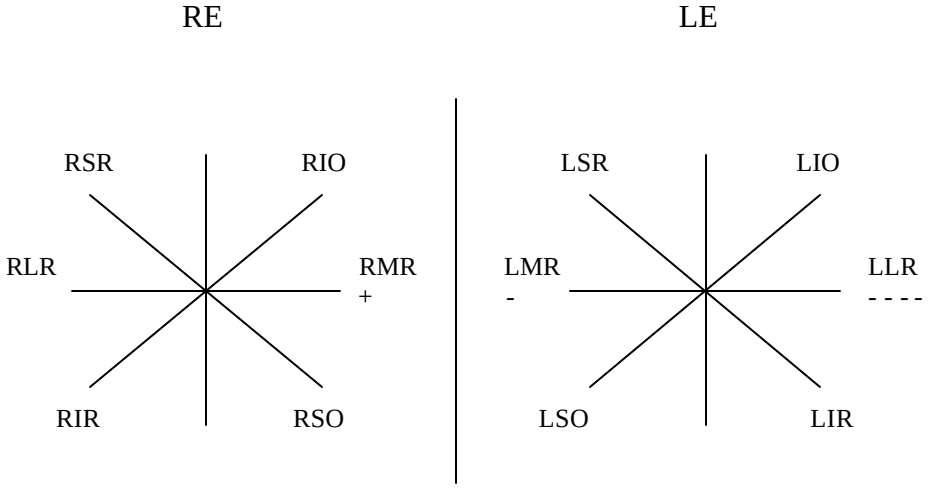
SPOT THE DIAGNOSIS

History: Girl aged 14 years complains of abnormal head posture (moderate face turn to left) and squint on straightening the head. The symptoms have been present since birth.

Compensatory head posture (CHP): Face turn to left

Cover test: LET in primary position without CHP

Ocular motility:



Palpebral fissures (PF):
Narrowing of left PF in dextroversion and widening of left PF in levoversion.

Please write your diagnosis, your name and JKA number below, cut on the dotted line and send by post.

Diagnosis:

Name:

JKA number:

Address:

Phone No.: FAX No.:

Mobile phone No.:

e-mail address:

HISTORY-A FEW FIRSTS IN STRABISMOLOGY

Worldwide

(a) Chevalier John Taylor (1703-1772) who performed a successful operation on a boy did first surgery for squint. He was half surgeon and half quack. He must have realized that squint was a disturbance of muscular equilibrium and conceived the idea that dividing a muscle or a nerve can cure it. However, he earned a bad name through many failures, one of them being on the eyes of Bach, the famous musician.
(b) In 1743 George L. Buffon recognized amblyopia and recommended occlusion for it.
(c) In 1839 Johann F. Dieffenbach performed the first successful tenotomy.
(d) du Bois-Reymond (1952) and Mackenzie (1954) were the first to suggest orthoptic treatment but it was elaborated and established as a technique by Javal (1864-96).
(e) Prof. A. Bangerter of Switzerland and Prof. C. W. Cuppers of Germany first advocated pleoptic treatment for amblyopia. However, their approach was different.

(Continued overleaf on page 28)

CME (Member of the year) Quiz no.4, 2003:

(NOTE: Please encircle the appropriate number or letter, fill in the blanks or describe as required. Then cut along the dotted line and return by mail. Turn over for the update-questionnaire)

1. *Enumerate the main types of conventional telephony*:
   (1) .
   (2) .
   (3) .
   (4) .

2. *Circle the correct answer:*
   (a) Maddox Rod is meant for measuring the deviation in Heterotropia for near: Yes / No
   (b) LASEK seems to be a safe and effective option for patients: Yes / No
   (c) Achieving binocular function may be related to early alignment of the eyes in Infantile ET: Yes / No
   (d) Early hyperopia is associated with a range of developmental deficits: Yes / No
   (e) Bilateral modified Harada-Ito procedures are effective in cases of bilateral SO Palsy: Yes / No

3. *Name the different kinds of dampening mechanisms for nystagmus*:
   (a) .
   (b) .
   (c) .

4. *Enumerate the various types of Acquired Nystagmus :*
   (A) .
   (B) .
   (C) .
   (D) .
   (E) .
   (F) .

5. *What are the main types of conservative treatment for nystagmus:*
   (1) .
   (2) .
   (3) .
   (4) .
   (5) .

HISTORY-A FEW FIRSTS IN STRABISMOLOGY

In India

(Continued from previous page)

(A) Dr.H.L.Patney started running an orthoptic clinic with the help of a compounder at Sitapur Eye Hospital whom he taught orthoptic exercises, in early nineteen fifties.
(B) Dr. M.K. Mehra and Dr. Sudha Awasthi (now Patney) started the first Orthoptic clinic at K.G. Medical College, Lucknow in 1957. She ran it for 2 ½ years.
(C) Dr. H.L. Patney started the first Orthoptic Department and the first Orthoptic School of India at Eye hospital, Sitapur, U.P. in 1959 and Dr. Awasthi (now Patney) Pleoptic dept. in 1961.
(D) Dr.Sudha Awasthi and Dr. J.M. Pahwa started the first Indian Orthoptic Journal in 1964.
(E) Dr. H.L.Patney and Dr. Sudha Awasthi started the All India Strabismological Society in 1967 and held India's first workshop on strabis mus in 1967.

Please answer the questions or encircle the correct answers, cut along the dotted line and send by return mail)

Update questionnaire

1. I have been receiving InteRyc regularly, sent 2 monthly in 1998 (6 volumes per year) and 3 monthly (4 volumes per year since 1999): Yes / No
2. My address remains unchanged: Yes / No
3. My email address: My Web-site address:
4. My phone No.: My FAX No.:
5. My pager No.: My mobile phone No.:
6. I am enclosing herewith a demand draft for Rs100 / *cheque* for Rs120 (year 2003 subscription) / DD for Rs200 or *cheque* for Rs220 (for the years 2002+2003) / DD for Rs 300 or *cheque* for Rs320 for 2001+2002+2003.
7. I would like to resign from the membership of AISS and JKAIS: Yes / No
   If answer is yes, please write the reason if you don't mind. It may help to improve our system.
8. My membership No. is: JIM-
9. My name and present address are:

For fellowship candidates only:

10. I have paid for …….. installments.
11. I have received ……..Installments.
12. I have sent back solved question papers of …… installments.
13. I have the following problems with the course (please attach a sheet if required):

14. I have paid membership subscription for the years 98 / 99 / 00 / 01/02 / all (97-03)
15. I would like to come for the hands on experience in the month of …… 2003.
    (*Please inform at least 3-4 months in advance for arrangements to be made*)

RATE YOUR PERFORMANCE YOURSELF

The results of the "CME Quiz NO.3, 02 and those of "Spot the Diagnosis" No.3, 02 are given on this page.

CME (Member of the year) Quiz no.3, 2002:

The correct answers are as follows:

A. Please enumerate the advantages of various "Biometric techniques" of identification:

1. .Face recognition is non-intrusive. A photograph can be taken of the subject without his knowledge.
2. .Face recognition in particular is less expensive than other biometric techniques.
3. .Face recognition is accurate and it does not need co-operation of the subject.
4. .Retina and iris scanning are foolproof like identification by finger prints.
5. .Databases, of employees, national citizens, criminals, etc., may already exist.

B. Please circle the correct answer:

(a) Face recognition is a intrusive technique: No
(b) Manifest nystagmus is the same as Latent-Manifest Nystagmus: No
(c) In disjugate nystagmus each eye shows different movements: Yes
(d) Consecutive exotropia is more common in cases of esotropia with amblyopia: Yes
(e) History of heredity is common in cases of nystagmus: Yes

C. What are the main features of Nystagmus Blockage Syndrome?

1) Infantile esotropia (with onset in infancy) with history of nystagmus starting before esotropia comes on
2) Pseudopalsy of both lateral recti muscles
3) Nystagmus present with straight eyes and infant non-attentive. It is absent / significantly reduced with the infant attentive and esotropic
4) Manifest nystagmus when fixing eye is moved out of its adducted position and goes into abduction
5) Anomalous head-posture on occlusion of either eye so that adduction is maintained.

D. Name the main types of physiologic nystagmus:

(1) Optokinetic
(2) Caloric
(3) Rotational
(4) End-position

E. The clinical characteristics of nystagmus are:

1. .Reduced visual acuity and amblyopia
2. .Oscillopsia
3. .Compensatory head posture
4. .Strabismus

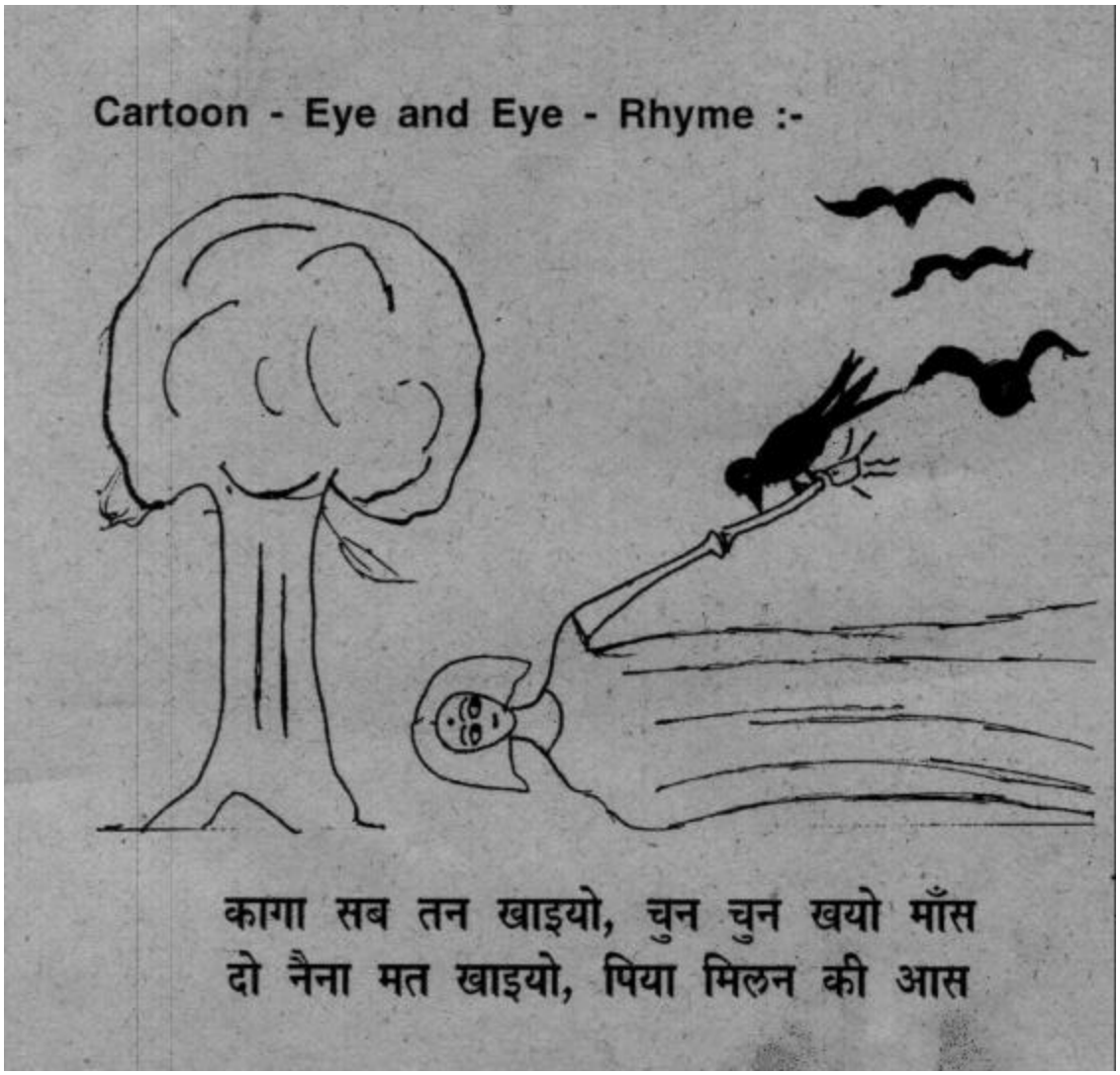
SPOT THE DIAGNOSIS No.3, 2002

Correct answer: Brown's syndrome, left eye

CARTOON-EYE AND EYE-RHYME

(Cartoon by Dr. S.A.Patney, Rhyme by a famous Hindi poet of long ago)

Members are not sending cartoons anymore and I do not always get time to draw a new cartoon every 3 months. Here is a photocopy of an old cartoon and Eye-Rhyme published on the back of the back cover of the second circular booklet sent to general ophthalmic community in 1997.



SENT before leaving for USA in July 03