Contents

InteRyc-volume 3, July, August and September, 2001

ALL INDIA STRABISMOLOGICAL SOCIETY

JKA Institute of Strabismology and binocular Vision

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President AISS, Director JKAI & Author & Editor of InteRyc:
Sudha Awasthi Patney, MBBS, MS (Ophth), FRCOphth (London)

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

A special request to the members

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 ophthalmologists have to be trained not to advise delay in treatment because the patient is a young child / infant. It is tragic that now that parents have become aware of the need for early treatment, the ophthalmologists are advising them to wait until the child is 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 and the ophthalmologists.

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.

REMOVE YOUR COBWEBS (Ryc)

(The section on information)

1. About the Institute
2. About the Society
3. About the courses
4. About the workshop
5. About InteRyc, the News-Letter-Update of the society
6. About the Indian Orthoptic Journal to be restarted soon.

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 Graduate 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 formal inauguration 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. In 1996 the Institute became functional along with the newly revived AISS.

E. At present there are only 30 members in good standing, i.e., the members who have paid up their dues until last year (2000). In all there were 88 registered members. Invitation to join the society 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. 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. About the Society

(1) All India Strabismological Society (AISS) was *conceived and started* by Dr. H.L. Patney and Dr. Sudha Awasthi 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 of 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 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 2000*). Only 9 members have paid for 2001.

This is an appeal to the non-payers to please send their subscription for 2001 to enable us to continue sending the InteRyc.

3. *About the courses*

(a) *Fellowship*: Theory part is now to be sent in 15 installment of 50-100 pages each as the X installment having 5 parts was extended to 334 pages. The number of installments was raised from 11. 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 but a minimum of 1 month is preferable.
(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 of them did when I was at Sitapur Eye hospital, they are welcome. They will be given a testimonial (Certificate of Proficiency) for the period of their stay here.

4. *About the workshops / Refresher Courses*

The idea of holding strabismus / amblyopia workshops is very much alive. Members shall be notified about the time and place. The course will be of a week's duration.

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

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 started by Dr. Sudha-Awasthi Patney and Dr. J.M. Pahwa in 1963 at Sitapur, the InteRyc will have to be discontinued.

6. *About the Indian Orthoptic Journal*: Action on this proposal is being delayed because I had asked for members' views about the replacement of the InteRyc by the Indian Orthoptic Journal. So far no response has been received. Your views are important because the InteRyc is a quarterly publication and the Journal will be published once a year. Secondly, the matter in a journal is useful in a different way than that in a news letter-update. I would like to know which one do you think you would find more useful.

I would very much like to know about your preference before going on with the proposal.

ATTENTION

1. This is a repeat request to members to let us know if they *have not received any one or more volumes of the InteRyc*, the next installment of the course material or *a receipt of the money they have sent*. There is always a chance that things may go missing while in transit.

2. The *CME (member of the year 2001) quiz-No.3* is included in this volume. Please answer it, cut along the dotted line and send it back by mail. The answers to the previous CME quiz are now being sent to the members along with the new quiz.

   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. The *update questionnaire* is printed on the back of the CME quiz. Please 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.

4. *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 2 years back he asked Dr. 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. Dr. Pahwa sent some old papers relating to the society sometime back for which we are grateful to him. We are going to invite him to become an honorary fellow of the society he served in the past as president for a year.

5. *I.D. cards:* Only six members have sent their photographs for making laminated ID cards. This is an appeal to the other members to please send their photographs so that their cards can be prepared and sent to them. We need ID card / stamp size photos. However, the members who have sent passport size photos, need not send smaller ones We reduced the size on the computer.

6. The fees for the whole of theory part of *fellowship course* are now Rs.1500 *including the mailing charges*. 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, an installment sent by the courier did not reach a fellow and I sent another one by registered A.D. post. Now therefore, we shall have to send them by post despite more expense involved.
   <u>*The usual procedure*</u>: *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, 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.

   As decided and indicated in the InteRyc-volume 4, 1999, the *InteRyc volumes 1-4 of the year 2000* have been sent to members in good standing only. The membership subscription for year 2001 became due on 1st January 2001. Members, who do not pay the subscription for the year 2000 by the end of June 2001 (extended date) will not be sent future InteRycs. 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 it soon. Now the book-post charges have become Rs.5 (a steep rise from Rs.2).*

7. The InteRyc volume 1, 2001 is not being sent to members who are <u>not</u> in good standing (who have not paid the subscription for the last 3 years, i.e., 1998, 1999 and 2000). They had paid only once in 1996-97 at the start when they had registered for the first time. We kept on sending them mail and InteRyc regularly until recently.

<u>All the members, who have not paid the subscription for one or more years, are requested to send it immediately. The subscription for 2001 became payable on January 1, 2001</u>. A LIST OF DEFAULTERS WILL BE PUBLISHED IN the InteRyc volume 4, 2001 to help the members remember.

<u>NEWS</u>

(1) <u>Names of the prize-winners</u>: The announcement of the names of the prize-winners for the year 2000 has been delayed because we had received only 1-2 entries for

various contests and the last date for the receipt of entries was extended from May to September, 2001. The results are as follows:

1. *The best-paper prize* goes to Dr. Tejas Mehta of Rajkot for his paper titled "Results of surgery on Stilling Turk Duane's Retraction syndrome".
2. *The prize for best Eye-Rhyme* has been won by Dr. AK Rathore of Bhavnagar.
3. *The best cartoon prize* has been claimed by Dr. Venugopal, G. of Mannarkad, Kerala.
4. *Remembering series quiz*: Dr. R.K. Rathore gets the prize for the first and best entry.
5. *The member of the year* title has been won by Dr. S.K. Pal of Calcutta.

(2) Announcement of 2001 contests: These contests are regular annual features and there is really no need to announce them annually. But nobody has sent any thing so far therefore here is a formal announcement of 2001 contests.
Actually, in this field also there is a lack of adequate response. In fact it is quite discouraging when there are very few entries. You may say that I am losing hope of ever being able to stimulate dedicated interest in a sizable number of ophthalmologists in this neglected but important subject. Anyway for the time being we are keeping the contests alive. We do hope that at least 1-2 papers will be of good standard.
Entries are invited for the following contests:

1) *Teleconference*: Papers are invited on any subject concerning strabismus, amblyopia, nystagmus or other disorders of ocular motility and binocular vision. The best paper will be awarded Dr. H.L.Patney Memorial Trophy, Rs.2500 in cash and a testimonial to the effect.
2) *Eye-Rhyme*: Entries are invited for short poems in English / Urdu / Hindi. The subject for the poem is "eyes". Any type of poetry in which the word is mentioned will qualify for the contest. The best poem will get a prize of Rs.250 in cash, a cup and a testimonial (the amounts of 1 and 2 are reduced due to poor quality).
3) *Cartoon*-Eye: Please send entries for Cartoon-Eye. Any subject concerning the eyes is acceptable. The best cartoon will get cash prize of Rs.250, a cup and a testimonial.
4) *Remembering series quiz*: What is the name of the strabismologist who invented a muscle transplant procedure (named after him) for horizontal muscle palsy?
5) *The member of the year 2001 will be chosen on the basis of performance in the quarterly CME quiz-2001).*

Note: The entries should reach us latest by 31st may 2002.

COMING UP

Note: I realize that News-Letters are likely to be thrown away. Therefore I am repeating some of the up coming events in this volume 3, 2001.

1. November 11-14, 2001: Annual American Academy of Ophthalmology Meeting, New Orleans. Contact: +1 (415)-561-8500 Extension: 304; FAX: +1 (415)-561-8576.

2. November 16-17, 2001: Generation Refraction 2001, Paris, France. Contact: Dr. Stephane Ganem, Institut de la Myopie, Foundation Ophthalmologique, A. De Rothschild, 25-29 rue Manin 75019, Paris, France. Ph.: +33 (1)-480-36891; FAX: +33 (1)-480-36533; email: generationrefraction@noos.fr.

3. December 4-6, 2001: The 16th Biennial Contact Lens Course, London. Contact: Dr. Ursula Vogt, Western Eye Hospital, Marylebone Road, London, NW1 5YE, England; +44 (20)-7886-3257; FAX: +44 (20)-7886-3259.

4. December 8, 2001: Neuro-Ophthalmology Meeting, Hamburg, Germany. Contact: Universitatsklinikum, Hamburg-Eppendorf, Klinik und Polyklinik fur Augenheilkunde Martinistr. 52, 220246 Hamburg, Gremany; Ph.: +49 (40)-428-03-2301; FAX: +49 (40)-428-03-4906; email: augen klinik@uke.uni-hamburg.de.

5. January 4-8, 2002: 60th Annual Conference of All India Ophthalmological Society, Ahmedabad. Contact: Dr. H.K. Tewari, Dr. R.P. Centre for Ophthalmic Sciences, Ansari Nagar, N. Delhi 110 029, India. Ph.: +91 (11)-6864851-58; FAX: +91 (11)- 6852919; email: hemtiwari@.vsa.net; Web-site: www.aios.org.

6. March 21-25, 2002: 3rd International Glaucoma Symposium, I.G.S., Prague, Czech Republic. *Contact*: The secretariat-Ph.: +420 (2)-8400-1444; FAX: +420 (2)-8400-1448, email: glaucoma@kenes.com.

7. April 17-19, 2002: 4th Annual John Hopkins Clinical Research Conference, Baltimore, U.S.A. *Contact*: John Hopkins University School of Medicine, Office of Continuing Medical Education, Turner 20, 720 Rutland Ave., Baltimore MD 21205-2195, U.S.A. Ph.: +1 (410)-955-2959; FAX: +1 (410)-955-0807; email: cmenet@jhmi.edu.

8. April 17-20, 2002: 9th Meeting of Internationa Strabismological Association, Sydney, Australia. Contact: ISA Contact Secretariat, GPO Box 2609, Sydney NSW 2001, Australia. Ph.: +61 (2)-9241-1478; FAX: +61 (2)-9251-3552; email:strab@icmsaust.com.au. Website: www.ophthalmology.aust.com.

9. April 21-26, 2002: 29th International Congress of Ophthalmology, Sydney, Australia. *Contact*: Congress Secretariat, ICMS Australasia Pty Ltd., GPO Box 2609, Sydney, NSW, Australia. Ph.: +61 (2)-9241-1478; FAX: +61 (2)-9251-3552; email: opthal@icmsaust.com.au.

10. April 21-26, 2002: 13th Symposium of International Society on Metabolic Eye Disease, Istanbul, Turkey. Contact: Heskel M. Haddad, M.D., 1125 Park Avenue, New York, NY 10128, USA; Ph.: +1 (212)-427-1246; FAX: +1 (212)-360-7009.
11. May 5-10, 2002: The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, FL, USA. Contact: ARVO, 9650 Rockville Pike, Bethesda, MD 20814-3998, USA. Ph.: +1 (301)-571-1844; FAX: +1 (301)-571-8311.

12. May 25-27, 2002: VI International Course of Ophthalmology, Cali, Colombia. Contact: Dr. Piedad Gonzalez P. email: Clinicaoftdm@andinet.com.

13. May 30-June 2, 2002: VI Congress of the Mediterranean Society of Ophthalmology, Alicante, Spain. Contact: Jorge L. Alio. Ph.: +34 (902)-33-33-44; FAX: +34 (96)-526-05-30; email: oftalio@ibm.net.

14. June 9-11, 2002: The 27th Indonesian Ophthalmologists' association (IOA) Annual Meeting, Jakarta, Indonesia. Contact: Dr. Bondan Harmani, Department of Ophthalmology, University of Indonesia, JI. Salemba Raya No. 6, Jakarta 10430, Indonesia. Ph.: +62 (21)-334-878; FAX: +62 (21)-392-7516; email: perdami@indo.net.id.

15. July 21-25, 2002: 7th International Conference on Low Vision, Goteborg, Sweden. Contact: Conference Secretariat, Congrex Goteborg AB, Att: Vision 2002, Box 5078, 402 22 Goteborg, Sweden. Ph.: +46 (31)-81-82-00; FAX: +46 (31)-81-82-25; email: vision2002@gbg.congrex.se; Web-site: www.congrex.com/vision2002.

16. July 22-25, 2002: XXIII Pan-American Congress of Ophthalmology, Buenos Aires, Argentina. Contact: Pan-American Association of Ophthalmology PAAO Administrative Office, 1301 South Bowen Rd., Ste. 365, Arlington, TX 76013-2286, USA. Ph.: +1 (817)-265-2831; FAX: +1 (817)-275-3961; email: paao@paao.org.; Web-site: www.paao.org.

17. March 21-25, 2002: 3rd International Glaucoma Symposium, I.G.S., Prague, Czech Republic. *Contact*: The secretariat-Ph.: +420 (2)-8400-1444; FAX: +420 (2)-8400-1448, email: glaucoma@kenes.com.

18. April 17-19, 2002: 4th Annual John Hopkins Clinical Research Conference, Baltimore, U.S.A. *Contact*: John Hopkins University School of Medicine, Office of Continuing Medical Education, Turner 20, 720 Rutland Ave., Baltimore MD 21205-2195, U.S.A. Ph.: +1 (410)-955-2959; FAX: +1 (410)-955-0807; email: cmenet@jhmi.edu.

19. April 17-20, 2002: 9th Meeting of Internationa Strabismological Association, Sydney, Australia. Contact: ISA Contact Secretariat, GPO Box 2609, Sydney NSW 2001, Australia. Ph.: +61 (2)-9241-1478; FAX: +61 (2)-9251-3552; email:strab@icmsaust.com.au. Website: www.ophthalmology.aust.com.

20. April 21-26, 2002: 29th International Congress of Ophthalmology, Sydney, Australia. *Contact*: Congress Secretariat, ICMS Australasia Pty Ltd., GPO Box 2609, Sydney, NSW, Australia. Ph.: +61 (2)-9241-1478; FAX: +61 (2)-9251-3552; email: opthal@icmsaust.com.au.

21. April 21-26, 2002: 13th Symposium of International Society on Metabolic Eye Disease, Istanbul, Turkey. Contact: Heskel M. Haddad, M.D., 1125 Park Avenue, New York, NY 10128, USA; Ph.: +1 (212)-427-1246; FAX: +1 (212)-360-7009.

22. May 5-10, 2002: The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, FL, USA. Contact: ARVO, 9650 Rockville Pike, Bethesda, MD 20814-3998, USA. Ph.: +1 (301)-571-1844; FAX: +1 (301)-571-8311.

23. May 25-27, 2002: VI International Course of Ophthalmology, Cali, Colombia. Contact: Dr. Piedad Gonzalez P. email: Clinicaoftdm@andinet.com.

24. May 30-June 2, 2002: VI Congress of the Mediterranean Society of Ophthalmology, Alicante, Spain. Contact: Jorge L. Alio. Ph.: +34 (902)-33-33-44; FAX: +34 (96)-526-05-30; email: oftalio@ibm.net.

25. June 9-11, 2002: The 27th Indonesian Ophthalmolosts' association (IOA) Annual Meeting, Jakarta, Indonesia. Contact: Dr. Bondan Harmani, Department of Ophthalmology, University of Indonesia, JI. Salemba Raya No. 6, Jakarta 10430, Indonesia. Ph.: +62 (21)-334-878; FAX: +62 (21)-392-7516; email: perdami@indo.net.id.

26. July 21-25, 2002: 7th International Conference on Low Vision, Goteborg, Sweden. Contact: Conference Secretariat, Congrex Goteborg AB, Att: Visbn 2002, Box 5078, 402 22 Goteborg, Sweden. Ph.: +46 (31)-81-82-00; FAX: +46 (31)-81-82-25; email: vision2002@gbg.congrex.se; Web-site: www.congrex.com/vision2002.

27. July 22-25, 2002: *XXIII Pan-American Congress of Ophthalmology, Buenos Aires, Argentina. Contact: Pan-American Association of Ophthalmology PAAO* Administrative Office, 1301 South Bowen Rd., Ste. 365, Arlington, TX 76013-2286, USA. Ph.: +1 (817)-265-2831; FAX: +1 (817)-275-3961; email: paao@paao.org.; Web-site: www.paao.org .

28. May 5-10, 2002: The *association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Fort Lauderdale, USA. Contact:* ARVO, 9650 Rockville Pike, Bethesda, MD 20814-3998, USA.; Ph.: +1 (301)-571-1844; FAX: +1 (301)-571-8311.

29. October 20-23, 2002: *2002: Annual American Academy of Ophthalmology Meeting, Orlando, USA. Contact:* Ph.: +1 (415)-561-8500; FAX: +1 (415)-561-8576.

STRABISMUS SUMMARY SERIES PART XIV

In this XIV part of Strabismus Summary Series the important topic of **the glossary** or **terminology** is being continued. The terms are followed by their definitions in short. We hope to include all the words commonly used. I request the members to point out any omissions or mistakes. After completing this topic, a short list of the abbreviations being commonly used in strabismology will be printed.

Terminology or glossary of strabismology: Part 7

Please see the table below. (Continued from Strabis mus Summary Series-Part XIII and Terminology/ Glossary: Part 6, InteRyc volume 1, 2001).

NOTE: The right hand table is separate. It starts at a word that follows the last word of the left-hand table. The words are given in alphabetical order.
Errata in the volume 2, 2001: Please refer to the word "saccades" and delete the matter given within the bracket. The mistake is regretted.

Table of terminology / glossary:

The term	Short definition	The term	Short definition
Sursumduction	Elevation of one eye	(continued from the end of left hand column)	
Sursumvergence	Disjugate movement in which one eye moves up and the other down (see right and left sursumvergence	Vertical angle Kappa	It simulates a vertical deviation and is usually caused by a vertical displacement of macula (macular ectopia)
Sursumversion	Simultaneous elevation of both eyes	Vertical vergence movements	When a prism is interposed in front of the eye, the cornea moves towards its apex. , e.g., a base up prism opposite OD will lead to movement of the right eye downwards. It is a vertical disjugate movement as the OD moves away from OS..
Triplopia	Triple vision. The patient complains of seeing three images of one object, two with one eye and one with the other.		
Tropia	Short for heterotropia (manifest strabismus)	V esotropia (ET)	The angle of ET increases in downgaze and decreases in upgaze.
Unilateral heterotropia	Manifest strabismus in one eye	V exotropia (XT)	XT increases in upgaze and decreases in downgaze.
Vergence	Disjunctive / disjugate movements. The two eyes move in opposite directions. (One to the right and the other to the left) e.g., convergence and divergence.	Vision deprivation	It is a lack of stimulation of retinal cells, either due to a squint or due to an obstruction to vision caused by occlusion or opacities in the media.
Versions	Simultaneous movements of the two eyes in the same direction, e.g., dextroversion	Visual axis	A straight line joining the fovea with object of attention. It passes through nodal point. Other names are: line of, vision / gaze / regard / principle visual direction (continued in the row below)*
*X pattern: XT minimum in PP; Y ET: Fusion in upgaze, ET in PP & downgaze; Y XT: XT in upgaze only			
(Continued in the right hand column of this table)		Legend: ET: esotropia, XT: exotropia	

End of terminology / glossary

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. If the reader is interested in any of the abstracts / short outline items given below, a copy of the requested full article can be sent.

Update-General ophthalmology

1. *Lasik flap management entails "wet" technique (MacRae, SM: as interviewed and reported by correspondent Bob Kronemyer, Ocular Surgery News International, (No.7) 11: 22, 2000)*: Most Lasik complications are preventable or treatable if lasik surgeons are prepared to revise their techniques. According to Dr. MacRae, epithelial management is really critical. As soon as the suction lid speculum is inserted he marks the cornea and then moistens it with a viscous lubricating solution within 10 minutes so that the cornea does not become dry. By this "mark and moisten" technique he has reduced the incidence of epithelial defects from 10% to 1%. The moistening / lubricating solution is made up of 1 part carboxymethyl cellulose Sodium 1%, and 3 parts carboxymethyl cellulose Sodium 0.5%, (Allergan). The second factor is the direction of the hinge of the flap. In cases of astigmatism the hinge of the flap has to be away from the flat meridian as it is the meridian that will have more treatment. Thirdly, the corneal vascularization has to be taken care of, if possible before surgery. Fourth precaution advised by the surgeon is intraoperative corneal pachymetry. There are other useful precutions to improve the results.

2. *Modern osteo-odonto-keratoprosthesis (OOKP) surgery (Liu, C., Syam P.P., Harold, J. and Thorp, S., Focus: occasional update from the Royal College of Ophthalmologists, Issue nineteen, Autumn 2001)*: There are some patients with failed keratoplasties with cadaveric corneas. Many of these have dry eyes. In such cases Falcinelli modification of the 40 year old Strampelli procedure. In this procedure the support for the optical cylinder is made of patient's own tooth root and alveolar bone. The indications are: bilateral corneal blindness caused by Stevens-Johnson's syndrome, Cicatricial pamphigoid, chemical burns, trachoma, dry eyes and multiple conventional corneal graft features. *Conclusion*: Falcinelli OOKP is now the recognized procedure that gives the best long-term visual and retention results of any kerato-prosthesis, particularly in dry eyes.

3. *Pupillary distortion and staphyloma following trans-scleral contact diode laser cyclophotocoagulation: a clinicopathological study of three patients* (*Bhola, RM et al, Eye, 15:453-457, 2001)*: The authors report a clinicopathological study of three patients who had undergone trans-scleral contact diode laser cyclophotocoagulation (TCDLC). These patients developed distortion of pupil and focal thinning of sclera leading to staphyloma. Histopathological examination in one of these patients revealed scarring of the root of the iris, ciliary body and other adjacent structures. *Conclusion*: According to the authors therapeutic TCDLC can producing scarring of the iris root, anterior chamber angle, drainage channels and ciliary body and may result in pupillary distortion. They discussion the pathogenesis and suggest a simple strategy to avoid this complication of TCDLC.

Update-Strabismology

1) *Does neonatal ocular misalignment predict later abnormality (Horwood, A and Williams, B.: Eye, 15:485-491, 2001)*: The authors carried out a longitudinal prospective study to ascertain the significance of neonatal ocular misalignment. They examined the records of 1150 children toto determine their visual outcome of neonates aged 8 weeks or younger having neonatal squint. *Their conclusions*: Occasional strabismus in the first 8 weeks of life appears to be normal neonatal behavior while frequent squinting trebles the chances of esodeviation / refractive error. These infants require corrective glasses before the age of 5 years. However, incidence of anomaly still does not exceed 9%.

2) *Autosomal dominant congenital superior oblique palsy (Bhola, BM et al, Eye, 15:479-484, 2001)*: The authors report 2 families with congenital superior oblique palsy (CSOP) in a parent and children. They compared their results with previous reports. In one family the mother and both her daughters had CSOP, one unilateral and the other bilateral. She had no other children. In the other family the father and all three sons had CSOP. His only daughter had a mild congenital superior and inferior rectus palsy of one eye. *Conclusions*: These families had what is probably an autosomal dominant form of CSOP. It seems that this disorder is more common than previously thought.

3) *Failure of accommodation in patients with HIV infection (Westcott, MC, Ward, M. and Mitchell, SM)*: *Purpose*: The main purpose of this study was to test the hypothesis that HIV positive patients have significantly reduced accommodational range as compared to the normal adults. *Conclusions*: This study has identified accommodative failure in a significant number of HIV positive patients in the age group of 25-34 years (30%). In older age groups the difference was not appreciable. The authors suggest that this problem may be under-recognised and further studies are required to investigate possible causes.

InformIT

The matter given below has been taken from "Ascent", one of the Thursday specials from the English Daily The Times of Times of India. There are some useful tips for saving time on your computer. Please read on.

1. *If you need more space on the screen* of the monitor and have to slide the bar to read the full line: just go to "View" and click at it → a drop down menu appears → click "Full screen" → all the various bars disappear and a wide screen makes it possible to read without shifting the matter every time you go to a new line. On the right hand side you see a vertical bar with words "Close full screen" on it. When you have finished with full screen, just click on "Close full screen" to go back to normal view.

2. *A convenient alternative to reaching to and pressing the "Eject" button* on your CD-ROM drive: open "My computer" on your desk top. Then right-click on the CD drive and left-click on the "Eject" from the pop-up list.

3. *If you have to see your email in a hurry and that also only the important ones*: People who use "Outlook express" can follow this procedure: click "View/Current View" and choose to see only "unread Messages". The read messages will be removed. You can get them back by reversing the above procedure.

4. *If you want to inform your friends when you are free or busy, without telling them what you are doing*: Lotus Notes let you do that. Just open your mail file and click "Actions/Calendar Tools/Calendar Profile and click the arrow next to "Free time Options" to bring up your public address books. Add those whom you would like to see your free time, to the right side of the screen. Click OK to close the window and the other options on the Calendar Profile which you require, then OK your way out.

5. *New versions of Microsoft Windows* have been notorious for requiring you to install and use new versions of much of your other software. Now the new Windows XP has done something that allows you to run all that old software. If you find a program that wont work initially, right-click on the program icon/short cut where you normally run it and left-click on the "Properties" and then click the "Compatibility tab." There you will find many options designed to help you to get the old software working again. That includes allocating memory, changing the screen resolution (particularly useful for those programs that insist on the use of "at least" 256 colors when your monitor shows millions already), and, most cleverly of all, lying to programs about which version of Windows you are running. Many programmers included a routine in their software to check that you have, for example Windows 95, but forgot to add "or later" to the code. Therefore their software now only runs under Windows 95 only.

SHORT REVIEW ARTICLE ON STRABISMUS

ADHERENCE SYNDROME & GRAVES OPHTHALMOPATHY

More and more cases of thyroid disease and consequently those of thyroid ophthalmopathy are coming to the notice of physicians and ophthalmologists. Significant number of cases of strabismus secondary to acquired fibrosis of extraocular muscles (EOM) and adhesions due to various causes, e.g., postoperative, thyroid myopathy etc. are seen in ophthalmology particularly ocular motility clinics. Thyroid oculo-orbitopathy, as thyroid ophthalmopathy is preferably termed, is a difficult condition to treat, so is strabismus grouped under the name of adherence syndrome. Thyroid oculo-orbitopathy belongs to the group of the nonparalytic-incomitant-restrictive strabismus.

A short review of these two conditions is being presented in two installments of *short review articles on strabismus*. Part 1 is being presented in this InteRyc, volume 3, 2001 and the part 2 will appear in the InteRyc volume 4, 2001.

Adherence syndrome

The term adherence syndrome has been used in two different contexts as explained below under the heading of definition.

History

1. Johnson[1] described adherence syndrome with pseudoparalysis of the lateral rectus or superior rectus muscle in 1950.
2. Parks[2] termed this postoperative condition as adherence syndrome in 1972.

Definition

1. Johnson[1] used the term adherence syndrome to describe a condition in which there are *adhesions between either of the two pairs of extraocular muscles detailed below*:

   (a) The lateral rectus and inferior oblique muscles, leading to a clinical picture of pseudopalsy of the lateral rectus.
   (b) The superior rectus and the superior oblique muscles, giving rise to pseudopalsy of superior rectus.

2. Parks[2] used the term the term adherence syndrome for a *condition that occurs after inferior oblique myectomy.* There is proliferation of fibrofatty tissue and adhesion of the proximal stump of the myectomized inferior oblique to the tenon's membrane or some other structure. There is hypotropia as a result with limitation of elevation.

Prevalence

1. The condition described by Johnson is quite rare[3] although he described several variations of adherence syndrome[1].

2. Adherence syndrome reported by Parks[2] was seen relatively commonly in the past (according my personal experience during more than 4 decades). However, it is seen infrequently now and this is more than likely due to improved surgical techniques and skills.

Parks found this complication in 13% of cases who underwent myectomy at the insertion of IO and in 26% of patients in whom disinsertion of IO was done. Noorden reports having seen it in only 2 cases in 35 years[3].

Etiology

1. *Johnson's adherence syndrome* could be due to one of the following two conditions:

   (a) Congenital anomalies of the muscle fasciae
   (b) Surgery involving either of the muscles named can cause severe scarring and adhesions. Noorden describes a case[3] in which surgery on lateral rectus resulted

in severe scar formation and adhesions between the lateral rectus and the IO muscles.

2. *Parks's adherence syndrome* is always due to surgery on inferior oblique. There is a possibility that the orbital septum may be injured during the inferior oblique (IO) myectomy leading to the proliferation of fibrofatty tissue and adhesions.

Symptomatology and clinical picture

1. *Patients suffering from Johnson's adherence syndrome present a clinical picture of* :

   (a) Lateral rectus palsy and have esotropia and a restriction of abduction of the affected eye. When the lateral rectus is detached from the sclera and the eye is forced into abduction there is resistance because of the adhesions.
   (b) Superior rectus palsy: They have hypotropia of the affected eye with a limitation of elevation especially in abduction. When the superior rectus is detached from the sclera, there is resistance to elevation of the eye on forced duction (elevation) test.

2. *Patients having Parks's adherence syndrome show a hypotropia of the affected eye, restricted elevation, especially in adduction and a positive forced duction test.*

Management

The treatment of these conditions is surgical.

1. *For the adherence syndrome described by Johnson he advises lysis of the adhesions as follows:*

   (1) *For the lateral rectus adherence syndrome,* the muscle is detached from its insertion and the globe is forcibly rotated medially to break the anomalous attachments. The lateral rectus is then reattached and forced duction test repeated to make sure of free abduction.
   (2) *For the superior rectus adherence syndrome* it is detached from its insertion on the sclera and the eyeball rotated inferiorly with force to break the unwanted attachments. The forced duction test is repeated and if the elevation is now free the superior rectus is reattached to its insertion.

   2. For the Parks's adherence syndrome also surgery is required to remove the excess fibrofatty tissue and severe the adhesions.

<u>Graves' Ophthalmopathy</u>

Graves' disease is also known as Parry's or Basedow's disease. It consists of a triad of symptom complexes: Hyperthyroidism with diffuse goiter, ophthalmopathy and

dermopathy. The three components of the triad are liable to run their independent courses.

During the last several years the condition of Graves' ophthalmopathy has gained a lot of importance because of certain special features. If these features are not recognized and correct diagnosis made the management is not likely to succeed.

Definition

Graves' ophthalmopathy is a component of the multiorgan autoimmune disease that may give rise to the following:

(a) Lid retraction
(b) Proptosis
(c) Lid and periorbital edema
(d) Swelling and enlargement of extraocular muscles leading to limitation of ocular motility, especially elevation
(e) Optic neuropathy
(f) Sometimes a rise of intraocular pressure (secondary)

History

1) Quoting Rolleston from his book Gorman[4] states that the association of eye disease with goiter was known in the 12th century.
2) Parry described the triad of hyperthyroidism, diffuse nodular goiter and ophthalmopathy[5] in his treatise published in 1825, after his death.
3) Graves in 1835 and von Basedow in 1840 noted the same association.
4) Shortly afterwards Graves name was given to the symptom complex.

For a more detailed account of history please refer to reference no. 5.

Terminology

Graves' ophthalmopathy has been described by various names because of our lack of understanding of the nature of relationship between the dysfunction of thyroid gland and the associated oculomyopathy.

Some of the other names of Graves' ophthalmopathy are enumerated below:

Exophthalmic ophthalmoplegia
Endocrine ophthalmopathy
Exophthalmic goiter
Dysthyroid eye disease
Endocrine orbitopathy
Endocrine myopathy
Infilterative ophthalmopathy
Dysthyroid oculomyositis

Prevalence

- Graves' oculopathy is more *common in females*[6].
- It is *rare in children*. The incidence of thyrotoxicosis in children is hardly 5% and the most common age of diagnosis is 10-15 years
- It occurs most commonly in middle age[6].
- A retrospective study from 1976 to 1990 by Batley et al[7] recorded an incidence of 86% in females in cases of Graves' disease and oculomotor anomalies. In females the incidence was 16 per 100000 and in males 3 per 100000. 90% of these cases had hyperthyroidism.

Genetic transmission

Hollingsworth et al described 6 families with Graves' disease[11]. I all these families the mode of transmission seemed to be autosomal dominant with a predilection for females. There was a mother to daughter linkage in several generations.
Some specific subtypes of human leukocytic antigen (HLA) from chromosome 6 are increased in the patients with Graves' disease. For the sequence of events in these changes see the etiology below.

Etiology

The exact cause is not known but it is an autoimmune thyroid disease. Like myasthenia gravis, Graves' disease is also mediated by autoimmune bodies to membrane receptors. Both the diseases have certain immunogenic features in common.
As already mentioned under the heading of genetic transmission, some specific subtypes of human leukocytic antigen (HLA) from chromosome 6 are increased in the patients suffering from Graves' disease. The suppressor T lymphocytes become genetically abnormal.
The *sequence of events* leading to a full fledged picture of Graves' ophthalmopathy as described[11, 12] is as follows:

Genetically abnormal suppressor T lymphocytes fail to abort the formation and proliferation of abnormal plasma cells → production of autoantibodies → coating of target somatic cell, in this case extraocular muscle fibers, with autoimmune complexes → plasma cell mediated release of muchopolysaccharides → inflammation & damage → (sequence of events continued) → collagen formation → hypertrophy of the extraocular muscles → congestion of orbital tissues & strabismus → restriction of ocular motility (typical of Graves' oculomyopathy) and other complications of Graves' disease.

Symptomatology

◊ Patients with Graves' disease often give history of previous undiagnosed and untreated episodes of hyperthyroidism[8].
◊ A family history of myasthenia gravis may be present in cases of Graves' disease and vice versa[9].

- ◊ Thyroid oculopathy may be associated with hyperthyroidism, euthyroidism or even hypothyroidism[6].
- ◊ It is also common in the patients who have undergone thyroidectomy[8].
- ◊ It is important to look for signs of myasthenia gravis in all cases of Graves' disease, as there is general agreement about an association between the two conditions. Both disorders are immunogenic in nature. About 5% cases of patients having Graves' disease have been reported to develop hyperthyroidism[10]. However, only about 0.2% of patients with thyrotoxicosis develop myasthenia gravis[10]. This is supposed to be due to the common immunogenic features shared by both these diseases (see etiology).
- ◊ *Symptoms*: 1. *Pain* and a pulling sensation during the period of inflammation and swelling of muscles.
    2. As the swelling subsides the pain disappears.
    3. *Diplopia* is a more common symptom. It is a result of incomitant-restrictive strabismus caused by muscle fibrosis.
    4. In longstanding cases the diplopia can be replaced by *suppression and even amblyopia.*
- ◊ Patients suffering from Graves' disease may or may not complain of symptoms like diplopia due to
- ◊ *Typical appearance of a case of Graves' disease during the first 1-2 years* is due to the inflammation and congestion of the extraocular muscles and the other orbital contents. They are enumerated below:

    A. Edema of the eye lids may be present
    B. Periorbital edema is often seen, especially in older patients.
    C. Exophthalmos with upper lid retraction leading to a staring look may be present. The lid retraction may be due to an increased effort at elevation of the eye against the passive resistance of the fibrotic inferior rectus.
    D. Proptosis is there in some cases. It is due to the increase in the volume of the orbital contents due to congestion, inflammation and swelling
    E. Conjunctival congestion, generalized or else local at the insertion-sites of the extraocular muscles
    F. Conjunctival chemosis
    G. Sometimes there is a lid lag present (von Graefe's sign).
    H. Other signs sometimes seen are convergence weakness, decreased frequency of the blink reflex, a staring look, inability to hold fixation in lateral gaze.
    I. Sometimes there is fine tremor on gentle eyelid closure.

- ◊ After a period of 1-2 years the inflammation is replaced by fibrosis. The result is a restriction of ocular motility due to fibrotic changes in the extraocular muscles and infiltration of orbital tissues with mucopolysaccharide ground substance.
- ◊ Occasionally the stage of inflammation is either bypassed or is very short lived and the patient presents with a *restrictive strabismus*. In such cases the diagnosis may be missed especially if there are no obvious signs or positive tests of thyroid disease.
- ◊ Sometimes the main presenting symptom is exophthalmos with or without diplopia.

◊ The diplopia is usually gradual in onset. It is a result of varying degree of fibrosis and swelling of various muscles leading to incomitant strabismus. It is usually horizontal as well as vertical because of the involvement of both groups of muscles.

◊ The first signs may be a periorbital edema and restriction of elevation.

◊ The *strabismus* is not uncommonly of *mixed type with horizontal and vertical* deviations present simultaneously. Sometimes cyclodeviation is added to the others because of the fibrosis and tightness of the vertical muscles.
It is an incomitant deviation of restrictive type, not of paralytic type.

The vertical deviation is usually most marked in elevation.

◊ As mentioned above *the inferior rectus is the most commonly involved muscle* and often the *most severely affected one* also. I wonder if it may be due to its close proximity to the inferior orbital septum. The resulting deviation is a hypotropia with a limitation of elevation with a positive forced duction test for inferior rectus.

Excyclotropia and exotropia may be added to hypotropia because of the muscle's secondary actions, i.e., excyclotorsion and adduction. A positive forced duction test is present in abduction, which is restricted.

◊ *Ocular Motility*: The various anomalies of ocular movements in order of the frequency of their occurrence are:

(a) Restriction of elevation due to involvement of *inferior rectus*

(b) Restriction of abduction due to the effect on medial rectus

(c) Limited depression and abduction due to fibrosis of superior rectus and medial rectus.

(d) The least often involved muscle is the lateral rectus, leading to an adduction defect.

The defects of *ocular movements are hardly ever symmetrical* and therefore the resulting strabismus is also incomitant but nonparalytic.

◊ <u>*Forced duction test*</u> is positive for muscles showing dysfunction (restriction of their action). It must be performed in every case, as it is diagnostic of presence of fibrosis in the muscles.

◊ There is a *resistance in the orbit to retropulsion* of the globe. That is to say when the eyeball is pushed backwards into the orbit there is an increased passive resistance.

◊ The extraocular muscles are the most commonly affected tissue in Graves' oculopathy (orbitopathy). The range and degree of the extraocular muscle involvement varies from case to case. It can be mild swelling of a few muscles to severe swelling and enlargement leading to fibrosis of multiple or all the muscles.

◊ *Course*: Usually the onset of diplopia is gradual. It is frequently related to the onset of exophthalmos. Occasionally mild periorbital edema with limited elevation may be the first sign. The deviation can reverse[33, 34] usually postoperatively but spontaneously also. The latter may be due to the involvement of the yoke muscle or improvement of the originally affected muscle[32].

◊ The *signs and symptoms of Graves' oculopathy/orbitopathy* are of many types and various combinations of them present a formidable range. Several efforts have been made to classify them[13, 14, 15] but only one of these[14] is widely in use. It is given below:

Werner/ATA (American Thyroid Association) system of classification of the presenting symptoms of Graves' disease:
(There are 6 classes that can be easily remembered by the mnemonic "NO SPECS")

Class O= No signs or symptoms
Class 1= Only signs like Lid lag, upper lid retraction and stare (no symptoms)
Class 2= Soft tissue involvement leading to signs and symptoms
Class 3=Proptosis
Class 4=Extraocular muscle involvement
Class 5= Corneal complications
Class 6= Sight loss due to the involvement of the optic nerve

Note: Every case does not pass through all these stages and then not in that order. In some cases strabismus and motility problem come earlier and others get the soft tissue changes, proptosis and the typical lid signs of Graves' ophthalmopathy before they get the extraocular muscle problems. However, the optic nerve damage and the corneal complications are not usual before ocular motility problems.

◊ Atypical and difficult to diagnose cases

1. Defects of ocular motility may be the only features in some cases. All other diagnostic features may be lacking.
2. Thyroid functions may be shown to be normal on blood chemistry tests.
3. This basically bilateral condition may present as unilateral.
4. Paresis of a muscle, e.g., lateral rectus and restricted ocular motility may be present simultaneously. The former is supposed to be due to pressure on the nerve supplying the muscle. This is because of an increase in the volume of orbital contents in the posterior part of the cone. The restricted motility is due to infiltration and fibrosis of the extraocular muscles (EOM).

NOTE: The diagnosis in such doubtful cases is made on the basis of the following points:

(a) There may be limitation of elevation in one eye and the other eye may appear to be normal, but on careful examination a mild restriction may be present in another direction.

(b) Graves disease should always be suspected in every case having the triad of signs as detailed below:

- Acquired incomitant strabismus with restricted elevation, unilateral or bilateral with or without restriction of other movements
- Positive forced duction test
- Signs of ocular palsy absent

(c) Resistance, even mild to retropulsion of the globe

Examination of a case of Graves' oculo-orbitopathy

1. Ophthalmological examination:

(a) Visual acuity is affected if there is a corneal haze due to exposure of the cornea consequent upon the presence of exophthalmos/proptosis and /or pathology in the optic nerve due to a pressure on it.
(b) Other findings, like those of the eyelids and conjunctiva etc. have already been described.
(c) Proptosis/exophthalmos
(d) Exposure keratitis
(e) Nonparalytic-incomitant-restrictive Strabismus
(f) Increase in the intraocular pressure on attempted elevation because of the pressure exerted by the fibrotic inferior rectus
(g) Optic atrophy because of the pressure on the nerve itself and its blood supply.

2. Orthoptic (ocular motility) examination:

1) Cover test reveals a nonparalytic-incomitant-restrictive strabismus
2) *Ocular movements* are restricted in various directions depending upon the muscles involved in fibrosis, most common being a limited elevation leading to hypotropia.
3) *Measurement of angle of deviation* in all the cardinal directions of gaze should be carried out, fixing each eye. It will confirm the incomitant nature of the deviation and the diagnosis made on cover test and ocular motility examination.
   The measurement of angle can be conducted on a major amblyoscope or with prisms (prism bars).

   It will also be useful for judging the future progress of the disorder.
4) *Hess chart* will do the same as the measurement of the deviation in cardinal directions of gaze.
5) Diplopia test is done for near and distance and a chart is made in the 9 directions of gaze.
6) *Field of binocular single vision (BSV)* is recorded for future reference to judge the progress and/or the effect of treatment.

7) Moorits and associates have suggested a method of *charting the eye movements*[16] whereby a modified perimeter is used to measure them in the various cardinal directions of gaze.

3. Laboratory tests:

A. *Forced duction test* (FDT, qualitative) and quantitative forced duction test (QFDT): The simple qualitative FDT (see page 663) can be done in the clinic but for the QFDT it is better to use the operation room. The former can be done under local anesthesia except in young children and the later under general anesthesia in children and local/general anesthesia in adults and older children.
In QFDT a length/tension graph is made. The curve is steep before the operation to release stiffness by disinserting and then recessing the tight inferior rectus muscle (or any other tight EOM, e.g., the medial rectus) after which procedure the elevation is improved in range. The weight in grams is increased and the length of the muscle measured step by step. After the weakening procedure the length/tension curve becomes flatter[24].

A) *Blood chemistry*: Positive results for the presence of thyroid disease are not necessary for making a diagnosis of Graves oculomyopathy. However, if they are positive that helps. As mentioned already this disorder may be present with normal, hypo or hyperthyroid function.

If several of the typical clinical signs of thyroid oculopathy, as enumerated earlier and *some of them repeated below*, are present, a clinical diagnosis of Graves' ophthalmopathy can be made even in the absence of definite thyroid disease as indicated by the presence of normal blood chemistry:

Proptosis, exposure keratitis, lid retraction, lid lag on depression, periorbital edema, restricted ocular motility particularly in elevation, adult onset-nonparalytic-incomitant-restrictive strabismus, positive forced duction test for all or most movements, especially elevation, optic nerve ischemia-atrophy and swollen/enlarged muscle bellies with sparing of the tendons on CT scan/MRI.

B) *CT scan (computed tomography) of the orbits* shows the swollen and enlarged extraocular muscles. CT scan shows the muscles better (sensitivity >85%) than does the MRI (sensitivity 61%)[17]. However, it should be a high resolution CT scan. The swollen muscles stand out clearly against the translucent orbital fat. There is an increase in the total and individual muscle volume[18] and the degree of severity of the disease is directly proportional to the degree of increase in the mass of the orbital contents.

MRI (magnetic resonance imaging) also shows the enlarged muscles.

Ultrasonography of the orbit: The positive findings on standard echography are mainly due to the presence of edema and therefore of highly reflective edema fluid and inflammatory cells in the swollen muscles[19].

The positive findings generally observed on echography are as follows[20]:

(1) Hypertrophied extraocular muscles (B-scan)
(2) Accentuated orbital walls (B-scan)
(3) High acoustic reflectivity of the extraocular muscles (EOMs) on A-scan
(4) Increased reflectivity and heterogeneity of the EOMs
(5) Solid thickening of the nerve sheath of the optic nerve
(6) Swelling of the lacrymal glands

Differential diagnosis: Acute myositis also shows thickened muscles but in this case the reflectivity is low and the tendons are also thickened.

Electromyography (EMG) of EOM indicates the presence of a myopathic lesion rather than a neurogenic etiology[21, 22] as is the case with skeletal muscles in cases of thyrotoxic myopathy**.**
The main feature is a decrease in the amplitude of action potential. There is no effect on the number of motor units.

As has already been mentioned myasthenia gravis is more frequently found in cases of Graves' disease than otherwise. If it is present in a certain patient suffering from Graves' myopathy the EMG recordings will show a fatigue of motor units. After an injection of tensilon (edrophonium) or even after simple rest a recovery of the activity in motor units is observed. This result should make one suspect coexistence of myasthenia gravis.

Recordings of the saccadic velocity *do not show evidence of muscle paresis except in cases with congestive type of Graves' ophthalmopathy. This finding also points to the restrictive nature of the muscle dysfunction[22]. If however, a paretic element is added to the restrictive, the peak velocity of the horizontal saccades will decrease. The paresis in the cases of Graves' oculopathy is primarily due to severe congestion and therefore is more likely to be found in the congestive phase of the disease. When congestion is relieved as by orbital decompression, the peak velocity increases.*

Infrared coulography[13, 25] *also shows reduced peak velocity on horizontal saccades in more severe cases with increasing congestion in the orbits. It improves after orbital decompression.*

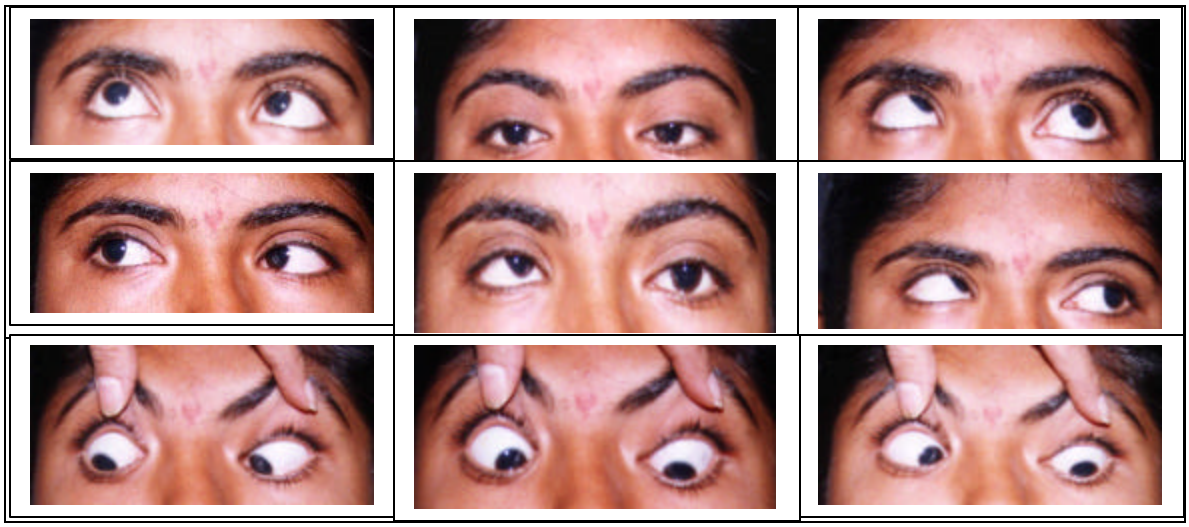
Assessment of active force generation (see page 661) in the EOMs *also shows no evidence of palsy[22].*

(NOTE: The second and final part of this article will appear in the InteRyc volume 4, 2001. It will include references for the full article).

SPOT THE DIAGNOSIS (3)

Please have a good look at the composite photographs given below and write to us the diagnosis, your name and JIM number.

Ocular motility chart of a patient:



BOOK SELECTION

Neuro-Ophthalmology: Review Manual, 5th edition

Authors: Kline, L.B. and Bajandas
Publishers: Slack Incorporated, 2000, Thorofare, NJ, USA.
Plus points: Easy to read, concise, having a succinct text, it is a user-friendly reference book in clinical neuro-ophthalmology. There is a lot of material given in a short space. I consider it very useful for ophthalmologists. I think it is a must for them enabling them to make an effort to diagnose those cases that they used to pass on to neurologist/or those that remained undiagnosed.
Minus points:
I can not think of any.
Price: $125.
Rating: ****

NOTE: The choice of a book on neuro-ophthalmology is deliberate. I think every ophthalmologist should be well versed in this subject because of the close association of the eyes with the brain. This is particularly true of the strabismologist. At present we do not have much to do other than prescribe glasses, do a work out in ocular motility, advise occlusion to treat amblyopia and operate for strabismus. We mostly deal thoroughly with nonparalytic squint only. The result, we do not count much in the world of ophthalmology. To gain some weightage we have to do justice to the subject of strabismus,

HISTORY-A FEW FIRSTS IN STRABISMOLOGY

(1) **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 32)

CME (Member of the year) Quiz no.3, 2001:

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

1. Please give short definitions (in a few words) of the following conditions:
   (a) Sursumvergence
   (b) Triplopia
   (c) Vertical angle Kappa:
   (d) Vision deprivation
   (e) V-exotropia

2. Do the pair of names given below convey the same meaning? Encircle the correct answer:
   (A) Sursumversion/elevation of an eye: Yes / No
   (B) Vergence/Conjugate movements: Yes / No
   (C) Principal visual direction/Visual axis: Yes / No
   (D) Dysthyroid oculomyopathy/exophthalmic ophthalmoplegia: Yes / No

3. Are the following statements true? Encircle the correct answer (yes/no):
   (a) Thyroid oculopathy may present as a case of restrictive strabismus: Yes / No
   (b) One of the main features of thyroid oculopathy is proptosis: Yes / No
   (c) Parks's adherence syndrome is always due to surgery on inferior oblique: Yes / No
   (d) Ocular motility restriction in thyroid oculopathy is symmetrical: Yes / No

4 The main features of thyroid oculopathy are:

(1) (4)
(2) (5)
(3) (6)

5. The positive findings generally observed on echography are :

(1)
(2)
(3)
(4)
(5)
(6)

HISTORY-A FEW FIRSTS IN STRABISMOLOGY

(2) 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 strabismus in 1967.

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

Update questionnaire

1. I have been receiving InteRyc regularly, sent 2 monthly in 1998 (6 volumes) and 3 monthly (4 volumes) since 1999: Yes / No
2. My address remains unchanged: Yes / No
3. My email address: My URL:
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 Rs 118 (year 2001 subscription) / DD for Rs200 or *cheque* for Rs218 (for the years 2000+2001) / DD for Rs 300 or *cheque* for Rs318 for 1999+2000+2001.
7. I would like to resign from the membership of AISS and JKAIS: Yes / No
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 / all (97-01)
15. I would like to come for the hands on experience in the month of …… (Please inform at least 3-4 months in advance for arrangements to be made)

RATE YOUR PERFORMANCE YOURSELF

Correct answers to CME (Member of the year) Quiz no.2, 2001:

1. Please give short definitions (in a few words) of the following conditions:
   (a) Right sursumvergence: Relative elevation of right eye as compared to left eye or left deorsumvergence
   (b) Saccades: A kind of versions brought on to place the image of object of attention on fovea and keep it there as long as required.
   (c) Secondary exotropia: Exotropia secondary to: reduced vision in one eye or overcorrection of esotropia.
   (d) Strabismus sursoadductorius: Upshoot of an eye in adduction, usually due to overacting inferior oblique
   (e) Smooth pursuit: A kind of versions, slow following movements to track an object

2 Do the pair of names given below convey the same meaning?

   (A) Following movements / Smooth pursuit: Yes
   (B) Downshoot in adduction / Strabismus deorsoadductorius: Yes
   (C) Active central inhibition of image / Suppression of image: Yes
   (D) Sensory esotropia / Consecutive esotropia: No

3. Are the following statements true? Encircle the correct answer (yes/no):
   (a) mm recessions of superior rectus is sufficient for DVD: No
   (b) Resection of inferior rectus should be a first stage procedure for DVD: No
   (c) Anterior transposition of inferior oblique muscle may convert it into a depressor: Yes
   (d) The effect of large recessions of superior recti last for a shorter time than those of Faden procedure for DVD: Yes

4. The main features of strabismus sursoadductorius are:

   (1) Usually no vertical deviation in PP or XT, with V pattern
   (2) In lateroversions adducted eye is hypertropic (HT)
   (3) In bilateral cases, RHT in LV and LHT in DV
   (4) May be associated with ET
   (5) Mostly due to IO overaction
   (6) May be bilateral or unilateral

5. Name the main surgical procedures for treating cyclodeviations:

   (1) For ipsilateral hypertropia with excyclotropia in PP: Inferior oblique weakening
   (2) If HT and Cyclotropia only in depression, not in PP + underaction of SO is present: Tucking of SO
   (3) For excyclotropia in PP only, without hypertropia: Harada-Ito procedure
   (4) For excyclotropia in PP and depression: Temporal transposition of superior rectus + nasal transposition of inferior rectus tendon
   (5) For excyclotropia in depression only: Nasal transposition of inferior rectus insertion

CARTOON-EYE

In fond memory

(1) **Mr. Thomas Keith Lyle**, M.D. Chir., F.R.C.S., F.R.C.P., London, U.K. was, in nineteen fifties, sixties and seventies, a legend in the field of strabismology and related subjects. When I trained under him at the famous Moorfields Eye hospital in 1960-61 he was a consultant eye surgeon and also the director of the Orthoptic and Squint department. The department had become famous because of his expertise and dedication. In addition to the above posts he also held the prestigious post of the Dean of the famous (in those times) Institute of Ophthalmology, London. In those days most doctors used to go to UK for further studies and not to USA as it is now. He inspired umpteen numbers of ophthalmologists to take up the noble mission of preventing amblyopia.
When the International Strabismological Association was started in 1966 at Giessen, Germany, he was its founding president and Dr. von Noorden of USA the founding secretary. He was a perfect gentleman, a typical Englishman, a reserved, simple and unassuming person, a wonderful human being and a missionary to the cause of prevention of amblyopia in children. His teaching, working style and surgery were deceptively simple. Good solid knowledge cre on one and infiltrated the subconscious before one became aware of it.
When we informed him about starting the Institute in 1983, he immediately sent his blessings (good wishes) and ag extolled me to impress upon the ophthalmologists and the orthoptists to be thorough in their examination of childre to campaign for the early detection and treatment of amblyopia. He advocated great patience and perseverance wh investigating and treating a case of strabismus/amblyopia. He told me there was a great need to train more and mo ophthalmologists in this subject.

(2) **Dr. Mrs. Kanti Devi Awasthi** was a martyr to the cause of country's freedom from English rule and oppression. Sl only 28 yr. old when she died for the country in 1944. She was totally dedicated to the cause and was her husband's half in every sense of the word.

(3) **Pandit Jaidayal Awasthi** started his fight for freedom in 1921. His wife joined him in 1930. The British Gover imprisoned them repeatedly. Their last imprisonment was in 1942 and they were released in late 1943, as his wife w critically ill. She and their youngest daughter died in 1944. He sacrificed not only his huge business but also his wif the youngest daughter for the cause of country's freedom. Later he refused the rewards of service to the country and resigned from congress in the fifties. He even refused a congress ticket for standing in the election for membership parliament.

(4) **Dr. H.L. Patney** was an eye surgeon par excellence. He was equally good in all specialties of ophthalmology. He d premedical, undergraduate and postgraduate medical training in UK. He did his house job (residentship) and registr in the Royal Eye and Ear Infirmary at Cardiff, Wales, UK. During those years he was the personal assistant of the legendary Sir Tudor Thomas, a pioneer in keratoplasty. He assisted at his private clinic operating on patients for keratoplasty, retinal detachment surgery, and plastic surgery. He was also fitting contact lenses and doing Orthoptic staying there for 14 years he came back to India to serve his country and to do that he joined Eye Hospital, Sitapur i That institution was in the fifties, sixties and seventies the premiere ophthalmic institution in India. When he joined hospital was functioning like a camp hospital doing a large amount of cataract, glaucoma, entropion and sac surgery updated its plans.
An interesting incident in 1942 changed the destiny of Eye Hospital, Sitapur. His highness the Governor of U.P., an Englishman, was travelling on the Lucknow-Delhi Road when he saw a large number of people with their eyes bandaged, sleeping on the roadside in Khairabad. The small township is about 5 miles from Sitapur. He asked his P.A. to investigate. He was informed that the place was a Government dispensary where the medical officer was doing a large number of cataract operations. He met the M.O., Dr. M.P. Mehrey and promised land for a hospital at Sitapur. The land was given. The hospital was built and it flourished. Top Indian industrialists and the central (and state) cabinet ministers got treatment from there and helped in making it the biggest and the best (in those days) eye hospital in India. Rest is history.
Alas! The great institution is not the same now but there was a time when people considered treatment at Sitapur Eye Hospital the ultimate help for eyes in India. And to be fair, I have yet to see more comprehensive facilities anywhere else. Its permanent bed strength was for 800 general ward patients (which used to double in winter with extra beds/mattresses put on the floor to accommodate the extra number of cataract patients). When I was there in sixties and early seventies there were 200 private wards, 5 guest-houses for rich patients, a so-called ulcer ward with beds for 150-200 blind, hopeless and infective cases. This ward was our practical research ground as we experimented with several new techniques on willing patients there. In addition, there were an Ocular Pathology department, a first class Orthoptic/Squint department, Orthoptic School, Optometry School, a library, the Blind School, an Instrument factory, the upgraded Postgraduate Regional Institute of Ophthalmology, a Carl Zeiss operating microscope, an Electro-retinogram machine, and for several years the first and only functioning photocoagulator in India. The doctors serving there were often sent abroad to learn the latest in various sub-

specialties of ophthalmology. Patients were referred from all over India and some neighboring countries.