

# CHILD CARE

Newsletter of the Sri Lanka College of Paediatricians

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## Message from the President Sri Lanka College of Paediatricians

Dear Member,

Let me thank the membership for electing me as the 11th President of the Sri Lanka College of Paediatricians. I am greatly honoured by the confidence placed in me. My gratitude to the immediate past president, Dr. Pushpa Punchihewa and her council for the excellent work they did during their tenure of office.

A special word of thanks is reserved for Dr. Sarath de Silva, Prof. Manouri Senanayake, Dr. Jeevanie Sarathchandra, Dr. J. S. D. K. Weeraman and Dr. Rohitha Seneviratna for their kind gesture in voluntarily withdrawing their nomination papers to pave the way for the council members to be elected without an election.

Children are the future of the world. Thus, it is the duty and the responsibility of all of us as paediatricians to provide the best possible care to them. We should upgrade our knowledge and provide correct information regarding child rearing practices to parents.

Both the profession and society expect and demand continued learning and contribution from professionals. On this basis, continuing education is essential for professionals to have a positive impact on the health of individuals.

'Expanding Education for Better Child Care', is the theme of the new council. I would particularly like to focus my attention on the dissemination of knowledge to all those who are involved in child care with particular emphasis on those in the periphery. This would involve not only the paediatricians and paediatric trainees but all the medical officers, the general practitioners and

also nursing staff who would be the first persons to come into contact with the child and parents.

We are planning to arrange educational workshops in all the provinces. These would be two day programmes with a Neonatal Advanced Life Support Course for 20 – 25 participants on the second day. These will be arranged with the assistance of the provincial directors and consultant paediatricians in the province. There will be a programme for nurses as well. Two successful workshops have been conducted in Kandy for medical officers on children with special needs in collaboration with UNICEF and the Family Health Bureau and a national level awareness programme for nursing officers on conducting audits, research and improving paediatric nursing care. Workshops of this nature will help us to reach the majority of health care professionals who are responsible for children in all parts of the country.

A Nursing Congress will be held for the first time in the annals of our history, parallel with the Annual Congress of the College. Update lectures on special topics of interest, symposia and courses to benefit postgraduate students are also planned.

Teamwork is very important to achieve our goals. I hope I will receive the whole hearted support of the newly appointed council and the membership. The overall goal of my period in office would be to improve the standards of the services rendered to the children of our country.

**Dr. Chandra Abeysekera**

President

Sri Lanka College of Paediatricians

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**11<sup>TH</sup> ANNUAL SCIENTIFIC  
CONGRESS OF THE SRI LANKA  
COLLEGE OF PAEDIATRICIANS**

17<sup>th</sup> – 20<sup>th</sup> June 2008

Plant Genetic Resource Centre  
Gannoruwa, Kandy

Please keep the dates reserved and  
have your research papers ready  
for submission.

**Events Scheduled for 2007/2008**

1. Satellite Academic Meetings in all the Provinces
2. Nursing Congress
3. Annual Academic Sessions
4. MCQ Course for MD Part 1
5. Mock OSCE Exam
6. Symposia on Nutrition, Oncology, Radiology etc.
7. Update Lecture Series
8. Paediatric Quiz for Medical Students
9. Central Province Paediatric Emergencies and Life Support Course
10. Educational Programmes for Teachers
11. Annual Trip

## Provincial Satellite Meetings Schedule

PROVINCE	VENUE	SLCP COORDINATOR	MONTH
Uva	Badulla	Dr. R. M. Mudiyanse	August 2007
Central	Kandy	Dr. Dayananda Bandara Dr. Mudiyanse Dr. Hema Welgama	September 2007
Southern	Galle	Dr. Deepthi Samarage Dr. Pushpa Punchihewa Dr. J. Weeraman	September 2007
Wayamba	Kurunegala	Dr. Dayananda Bandara Dr. R. M. Mudiyanse	October 2007
Western	Colombo	Dr. Deepthi Samarage	November 2007
Sabargamuwa	Ratnapura	Dr. R. M. Mudiyanse	December 2007
North Central and Northern	Anuradhapura	Dr. Dayananda Bandara	January 2008
Eastern	Ampara	Dr. R. M. Mudiyanse	February 2008

\*NALS course will be coordinated by Dr. Srilal de Silva and Dr. Wasantha Karunasekara.

### EVENTS HELD

1. **Symposium on children with special needs** for paediatricians, paediatric trainees and grade medical officers was held in collaboration with the UNICEF and the Family Health Bureau on 19th June 2007 at Hotel Topaz, Kandy and 120 participants from all parts of the country attended this event.

2. **A national level awareness programme for matrons, principals of nursing schools and nursing**

**officers** on research and conducting audits was held on 23rd July 2007, in Kandy in collaboration with the Ministry of Health in preparation for the Annual Nursing Congress. There were 230 participants from all parts of the country.

3. **An update lecture on childhood thrombosis** was delivered by Dr. Anselm Chi-Wai Lee, Consultant Paediatric Haematologist and Oncologist of the East Shore Hospital Singapore at the Lady Ridgeway Hospital New Auditorium on 28th June 2007.

## FORTH COMING EVENTS

## SRI LANKA JOURNAL OF CHILD HEALTH

### Local Events

1. Satellite Meeting, Uva Province - 14th and 15th August 2007.  
Venue: Hotel Onix, Bandaranayake Mawatha, Badulla.

### International Events

1. 25th International Paediatric Association Congress, Athens, Greece 25th - 30th August 2007.
2. 5th World Congress of the World Society for Paediatric Infectious Diseases Bangkok, Thailand. 15th - 18th November 2007.
3. 14th Congress of the Paediatric Nephrology Association, 31st August - 4th September 2007, Budapest, Hungary.
4. 5th PAS Conference Kathmandu, Nepal on Achieving Millenium Goals in Child Health, 27th - 29th March 2008.
5. A Course on Post Graduate Training in Medicine: Prevention of Newborn and Infant Mortality, Israel, 1st January - 20th March 2008.
6. The International Congress of Paediatric Hepatology, Gastroenterology and Nutrition, 24th - 27th October 2007 at Sharm El Sheikh, Egypt.
7. 4th ISN Update Course in Nephrology, Department of Health and Medical Services (DOHMS), Dubai International Society of Nephrology (ISN), Emirates Medical Association Nephrology Society (EMAN), Dubai UAE. 07th - 09th December 2007.
8. 103rd Annual Meeting of The German Society of Paediatrics and Adolescent Medicine (DGKJ), Nurnburg, Germany, 13th - 16th September 2007.

Please submit your articles and research papers to Dr. G. N. Lucas/Dr. B. J. C. Perera, Joint Editors, Sri Lanka Journal of Child Health, c/o Sri Lanka College of Paediatricians, No.6, Wijerama Mawatha, Colombo 7. Please computer type the text in 2 columns as shown in the journal and forward in an electronic storage device.

Due to the recent increase of the postage, the College incurs around Rs. 125/- per journal on stamp dues. Thus, the Council has decided to have personal copies of the journal made available for collection at the College Office.

For an annual subscription (postal), send a cheque for Rs. 500/- in favour of the "Sri Lanka College of Paediatricians" with postal address.

The journal is now available on line at the college web site [www.srilankacollegeofpaediatricians.com](http://www.srilankacollegeofpaediatricians.com)

### E-MAIL ADDRESSES OF THE MEMBERS

If your e-mail address has not been provided to the SLCP office, please send it to [slcp@sltnet.lk](mailto:slcp@sltnet.lk) as soon as possible as we are updating the addresses of the members.

### SLCP BUILDING FUND

The Sri Lanka College of Paediatricians has opened an "SLCP Building Fund" account (335225) at the Bank of Ceylon, Borella, for the purpose of constructing a building for the college. Any donation would be greatly appreciated.

# Screening for Congenital Hypothyroidism in Sri Lanka – Should we? Can we?

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## Introduction

Congenital hypothyroidism (CH) is a significant health problem in children throughout the world. It occurs in approximately 1:3000 to 1:4000 newborns and is the most common preventable cause of mental retardation. A deficiency in circulating thyroxin (T<sub>4</sub>) is the immediate biochemical defect that causes CH.

Babies with CH who are provided with very early thyroxin replacement have a good prognosis for mental development, whereas those detected or treated late, suffer from an unfavourable outcome with varying degrees of mental subnormality in addition to problems of physical and sexual development. Therefore it is mandatory for all paediatricians to make the earliest possible detection of CH to enable early treatment to prevent the problems associated with CH.

## Detection of CH

During pregnancy, both maternal and foetal thyroid hormones contribute to growth and development of the foetus. This explains why some of the athyreotic newborns usually do not show any signs of hypothyroidism at birth. Clinical features of CH are present in only about 7% of cases of CH at birth and therefore most newborns with CH are not detected during routine paediatric examinations. Epidemiological studies done in many countries of babies with CH detected by clinical methods reveal that, of those ultimately determined to have CH, approximately 90% were missed at one month of age, 65% at three months and 30% even as late as one year. However early detection of the disease is possible by routine biochemical screening in the first few days after birth. Even before the turn of the millennium nearly 24 million infants were being screened worldwide with 6000 to 8000 cases of CH detected each year.

The classical biochemical characteristic of CH is an elevated TSH level with a low T<sub>4</sub> concentration.

Triiodothyronine levels are normal or low. Neonates with low T<sub>4</sub> concentration and normal or low TSH should be suspected of having pituitary (secondary) hypothyroidism. Currently the popular newborn screening method for CH is blood spot TSH or blood spot T<sub>4</sub> assessment or a combination of both. Simultaneous measurement of both T<sub>4</sub> and TSH has greater sensitivity for detection of CH than either of the two sequential methods currently used. However the combined test is not considered cost effective and has the added disadvantage of requiring a larger sample of blood from the infant.

The question of whether to use blood spot TSH or T<sub>4</sub> as the initial screening test has remained controversial since newborn screening for CH began. T<sub>4</sub> was the preferred choice for very early screening of CH by some since the biological surge of TSH in the first 48 hours had the potential to give false positives. In addition, in the past commercially available kits for screening by TSH were more expensive and less sensitive than the T<sub>4</sub> test kits. They also required a larger volume of blood. However, today with the development of technology both T<sub>4</sub> and TSH kits cost approximately the same and the sensitivity and specificity are similar. In view of the early surge in TSH, most published reports on screening by TSH relied on testing after day three of life. However more recent studies using currently available kits have used blood spot TSH as a screening method, at an earlier age – between 24 – 48 hours of birth. These have shown that TSH screening is as reliable as T<sub>4</sub> to identify primary CH without adversely affecting the outcome due to early sampling. An advantage quoted of TSH is, that it can be used without correction for prematurity.

## Detection of CH in a sample population in Sri Lanka

Neonatal screening for congenital hypothyroidism (CH) is not a routine practice in Sri Lanka. Hence, the diagnosis is based on “clinical features”. A pilot study based in

Peradeniya and its surrounding hospitals showed a considerable number of missed cases due to the non availability of biochemical screening and a high burden of thyroid dysfunction when biochemical screening on serum was conducted in early infancy<sup>1,2</sup>.

This in turn led to a feasibility study on the conduction of a neonatal screening programme using the “dried blood spot” method for detection of CH, in a few selected district and base hospitals in the Central and North Western Province with the intention of providing a model for a national screening programme<sup>3</sup>.

Newborns were screened for thyroid stimulating hormone (TSH) at the time of BCG vaccination to detect CH. Blood samples were collected on to a standard S&S 903 blood collection paper, was air-dried, transported and tested for thyroid stimulating hormone (TSH). Neonates with TSH values above 20mU/L in blood were identified as at risk for CH and recalled for serum confirmation. The main outcomes were as follows:-

Total screened – over a period of 20 months	9207
Percentage screened within 48 hours of birth	68.5%
Minimum Total Coverage (from each hospital)	95%
Sample rejection rate	1.0% (95% CI 0.8% – 1.2%)
Number recalled for confirmation on serum	65
Recall rate	0.7% (95% CI 0.69 – 0.70%)

Of the 65 recalled neonates 6 proved to be true positives. The incidence of true CH was in this sample therefore approximated 1:1500 which is relatively high compared to global figures. It probably points to the necessity of a national hypothyroid screening without further delay.

Furthermore the high coverage (in spite of the programme being beyond the routine duties of the staff) and low sample rejection rate amply demonstrated the feasibility of screening for CH in state hospitals using the “dried blood spot” method. It also showed that early sampling did not adversely affect the recall rate as expected and that sampling at BCG remains a viable option in planning for screening of CH in Sri Lanka.

### References

1. Nanayakkara DKK, Wijekoon ASB, et al. Retrospective analysis of clinical symptoms used for detection of Congenital Hypothyroidism. Proc. Ann. Res. University of Peradeniya Vol 7, p100, Oct 2002.
2. Nanayakkara D, Wijekoon ASB. Laboratory screening for congenital hypothyroidism in early infancy: A hospital based study; proceedings of the Peradeniya University Annual Research Sessions Sri Lanka (vol 9) Nov 10th 2004 – abstract 103p.
3. Towards neonatal screening for congenital hypothyroidism in Sri Lanka – a pilot project. Damayanthi Nanayakkara, Ananda Wijekoon, Nawaz Jiffry, RM Mudiyanse, JM Nilam, Guwani Liyanage, Kishor Solanki. Proceedings of The 6th Meeting of the International Society for Neonatal Screening, Awaji, Tokushima, Japan. September 16th – 19th, 2005.

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