News from Singapore's academic tertiary hospital for women and children

New specialist service treats women and children with skin conditions

Women and children with skin problems can now seek specialist treatment at the new Dermatology Service at KK Women’s and Children’s Hospital (KKH).

The service conducts daily clinic sessions for children and twice-weekly sessions for women, providing comprehensive diagnosis and management of general, severe and complex skin conditions specific to children (e.g. eczema and vascular malformations) and women (e.g. skin conditions associated with pregnancy).

Treating children’s skin conditions

Common skin conditions that affect children and adolescents in Singapore include skin infections, acne and atopic eczema – a skin disorder involving scaly and itchy rashes. Some children also present with genetic skin conditions or more complex skin conditions, such as vascular malformations, which require specialised treatment within a paediatric hospital.

“It is very important to seek early treatment for severe paediatric skin conditions as they may worsen or lead to other complications, including severe psychological impairment, if not treated adequately,” says Dr Mark Koh, Head and Consultant, Dermatology Service, KKH.

Children suffering from severe atopic eczema may experience associated problems, such as low self-esteem, severe itching, poor sleep and difficulty concentrating at school. Their condition is best cared for in a holistic, multi-disciplinary setting with the involvement of other paediatric subspecialties and allied health professionals such as psychologists and therapists.

The Dermatology Service at KKH is currently working to establish an ‘Eczema School’ to provide support and therapy for children with severe eczema and their families. Patients in the ‘school’ will be able to build support networks with other families who have children with severe eczema, and seek advice from paediatric dermatologists, dermatology nurses, psychologists and therapists on the holistic management of their condition.

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TREATING COMMON SKIN INFECTIONS IN CHILDREN

Dr Mark Koh Jean Aan
Head and Consultant, Dermatology Service, KK Women’s & Children’s Hospital

Skin infections affect children of all ages. Some may resolve on their own, but others require medical attention. Here are some common types of skin infections that affect children in Singapore.

Viral Infections

Molluscum Contagiosum (MC)

Molluscum Contagiosum (MC) is caused by a poxvirus and has a higher incidence among children. Spread by direct contact, it presents with single or multiple skin-coloured, dome-shaped papules which have a central depression resembling a navel (Figure 1).

![Figure 1. Molluscum Contagiosum (MC)](image)

MC is self-limiting and can be left to involute over 6-12 months. An eczematous rash appearing around the lesions usually indicates that the lesions may involute over the next few weeks or months. Treatment options, if required, include topical applications such as tretinoin or imiquimod, curettage, cryotherapy, pricking and expressing, and electrocautery.

Viral Warts

Viral warts are caused by the human papilloma virus, and are very common in children and adults. Reported estimates of the prevalence of warts in children range from 6.9 percent to 22 percent in the Asia-Pacific region.

Warts are spread by direct contact, and can occur on almost any area of the skin, though they appear most commonly on the hands and feet.

On palms and soles, viral warts appear as papules with thickened skin, with punctuate thrombosed capillaries and loss of overlying skin lines. Plane warts are most common on the face and present as skin-coloured, flat-topped papules, sometimes in a linear configuration.

Treatment options include cryotherapy, electrocautery and ablative laser therapy. A simple home-based treatment can be done by nightly application of a keratolytic agent such as Duofilm or Verrumal, and covering the area overnight. This can be done for four to six weeks. In children, warts may resolve spontaneously, but may take up to two years for resolution.

Herpes Simplex Virus (HSV)

Herpes infections in children are most commonly caused by HSV I, and less commonly by HSV II. Herpes gingivostomatitis is the most common type of primary herpes in children, seen as multiple grouped small blisters and erosions over reddish skin. It usually involves the lips, gums and tongue. Systemic symptoms include fever, lethargy and irritability.

Herpes labialis or cold sores are common in children and adults and present as painful, small, grouped blisters and erosions on the lips and around the mouth.

Eczema herpeticum is a secondary herpes infection occurring in patients with underlying skin disease – most commonly atopic dermatitis. Patients notice a worsening of their underlying skin condition, accompanied by small spotty erosions (Figure 2), which can become extensive. Severely affected patients may require inpatient treatment with systemic anti-virals, such as acyclovir or valacyclovir.

![Figure 2. Eczema herpeticum](image)

Mild herpetic infection can be managed with saline soaks and application of an anti-bacterial or anti-septic cream to prevent secondary bacterial infection. Topical acyclovir cream can also be used to shorten the duration of illness in patients with cold sores.

(continued…) New specialist service treats women and children with skin conditions

Treat women’s skin conditions

In addition to treating common women’s skin conditions such as eczema, acne, pigmentation and hives, the Dermatology Service also provides diagnosis and care for women with lesser-known conditions such as pregnancy rashes and chronic, recurrent genital rashes.

Genital rashes are a common skin condition experienced by women, and require prompt diagnosis to provide timely holistic care. Left untreated, genital rashes can lead to significant psychosocial impairment, sexual dysfunction, anxiety and depression.

One-stop care at multi-disciplinary clinics

Multi-disciplinary clinics cater specially for patients who require intervention and support from more than one specialty. This gives patients access to a range of treatment modes, which are often used in combination to provide holistic and effective care.

The Combined Vascular Clinic, for instance, provides holistic multi-disciplinary treatment for children with complicated vascular tumours and malformations. The clinic’s multidisciplinary team includes dermatologists, interventional radiologists, paediatric surgeons and plastic surgeons.

To continue providing timely diagnoses and innovative treatments for women and children, KKH’s Dermatology Service has plans to establish similar combined clinics for eczema, genetic skin conditions, as well as genital skin conditions.
Varicella-Zoster Virus

The varicella-zoster virus causes chickenpox and herpes zoster. Chickenpox is common in children of all ages, and early symptoms include fever, chills, muscle and joint pain. Skin lesions initially appear as red macules and papules, but quickly become vesicular and crusted. Lesions first appear on the face and trunk, but subsequently spread to the extremities. New lesions continue to appear for the first five to six days and spontaneously resolve after two weeks.

Herpes zoster is uncommon in children and presents with painful, grouped vesicles in a dermotomal distribution. Uncomplicated varicella infection can be closely monitored by doctors. More severe infections can be treated with systemic anti-viral medication such as acyclovir and valacyclovir.

Bacterial Infections

Impetigo

Impetigo is a common bacterial skin infection caused by Staphylococcus aureus, and less commonly, Streptococcus. It can occur in normal skin, but also secondarily affects underlying skin diseases such as atopic dermatitis and discoid eczema. Patients present with crusted, honey-yellow scaly papules and plaques. Lesions commonly occur around body orifices, such as the nose and mouth, and soft large blisters filled with clear fluid may be seen.

Young infants can develop staphylococcal scalded skin syndrome as a complication of impetigo. Treatment includes normal saline or potassium permanganate soaks and topical anti-bacterial creams for mild cases. More widespread involvement requires a one- to two-week course of oral antibiotics, such as cephalaxin, cloxacillin or erythromycin.

Parasitic Infestations

Scabies

Scabies is caused by the sarcoptes scabiei mite. It can be contagious within families and childcare facilities, and can occur in all age groups, even in young infants. Patients develop extremely itchy, crusted and excoriated papules. Common sites include the web spaces, armpit, navel and genitals. For infants, scabies can also affect the scalp; but is uncommon in older children and adults.

Topical permethrin is recommended for the treatment of scabies for infants less than one year of age. For the treatment of scabies in older children and adults, topical malathion or topical permethrin is recommended. All treatments should be repeated one week after the first cycle. It is important to treat all family members staying in the same house, even if they have no symptoms, and all bed linen should be thoroughly washed.

Cutaneous Larva Migrans (CLM)

Cutaneous Larva Migrans (CLM) is a self-limiting skin infestation caused by the larval stage of dog and cat hookworms. It generally occurs in children after contact with sand infested by the parasite larvae. The eruption occurs as a very itchy, creeping, reddish plaque that advances at 1-2 mm per day (Figure 3). It commonly occurs on the feet, buttocks or genitals. The condition is self-limiting but treatment with oral anti-helminthics, such as albendazole and thiabendazole, can be effective.

Figure 3. Cutaneous Larva Migrans (CLM)

Conclusion

Some skin infections, such as molluscum, are self-limiting and may not require aggressive treatment. However, other more severe skin infections like eczema herpeticum require early recognition and treatment, as delayed treatment may worsen the underlying skin disease and lead to further morbidity.

"Patients with underlying skin diseases, such as atopic dermatitis, are more susceptible to certain skin infections like impetigo – which may worsen their underlying skin condition. Patients who suspect they may have a skin condition should seek medical attention."

Tips for parents:

• Ensure that children adhere to good hygiene practices, such as washing hands after playing outdoors or with animals, especially before mealtimes.

• Certain skin infections such as impetigo and scabies can spread within childcare facilities and schools. Keep your child at home if they have an infectious skin condition.

• Skin is a natural barrier against infection, so keep skin infections, cuts, and abrasions clean. Contact your doctor if your child has problems taking a prescribed medication, or if the condition does not improve or worsens.

References:

The gift of hearing: Advances in Paediatric Cochlear Implantation

Dr Annette Ang
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Permanent deafness in early childhood is often related to the loss of function of the cochlea - the inner ear.

The incidence of reported loss of cochlear function ranges from 1.2 to 1.7 per 1,000 live births. Of these children, 20 to 30 percent experience profound hearing loss. The prevalence increases up to age six, due to late-onset deafness which may be the result of meningitis, delayed onset of genetic hearing loss, late diagnosis or exposure to ototoxic agents.

Early diagnosis and intervention for congenitally deaf children is important for their cortical development, as auditory input impacts the development of the immature brain. Proper complex auditory function and speech perception cannot be well established when hearing is restored late in life to congenitally deaf people.

Diagnosis

In April 2002, KK Women’s and Children’s Hospital (KKH) became the first hospital in Singapore to implement a Universal Newborn Hearing Screening Programme (UNHS) using Automated Auditory Brainstem Response technology to identify hearing loss early in life and facilitate early intervention. Achieving diagnosis by the age of three months and successful intervention, such as hearing aids, by six months has been shown to help children with deafness perform at the same academic level as their hearing peers.

Trends for Paediatric Cochlear Implantation

Since its establishment in 2005, the KKH Cochlear Implant Programme has brought about a sea change in trends for paediatric cochlear implantation, resulting in greatly improved results for children in Singapore and Southeast Asia.

1. Cochlear implantation at a younger age

Early cochlear implantation in children has been shown to result in superior speech and language outcomes. Children who receive a cochlear implant between the ages of 12 and 36 months are found to outperform those who receive a cochlear implant between the ages of 37 and 60 months.

In the eight years since the KKH Cochlear Implant Programme was set up, the mean age for cochlear implantation has dropped from nine years to three years.

2. Increased popularity of bilateral cochlear implantation

Binaural hearing is provided by both ears. It is demonstrated that children fare better in areas such as language, reading, and work environment when both ears are used.

For children in whom a second cochlear implant is not possible, the use of a hearing aid in the other ear is strongly advocated. This allows the child to have bimodal hearing, which facilitates speech perception in noise and better language development.

3. Hearing-preservation cochlear implants

Early laboratory studies have shown that the inner and outer hair cells of the cochlea can survive after implantation with an electrode. This allows children with high frequency hearing loss and normal residual low frequency hearing to be implanted with a cochlear implant that preserves their native low frequency hearing.

The hearing-preserving cochlear implant allows for better word recognition in the presence of background noise and better appreciation of music. In children with congenital deafness with high frequency hearing loss, KKH cochlear implantation has been shown to result in superior speech and language outcomes. Children who receive a cochlear implant between the ages of 37 and 60 months are found to outperform those who receive a cochlear implant between the ages of 37 and 60 months.

Conclusion

Cochlear implantation is now an established strategy for the management of permanent hearing loss in childhood. With the aid of a cochlear implant, deaf children are now able to enter mainstream schools and achieve equivalent academic standards to their hearing peers.

The field of cochlear implantation and otolaryngology is expanding at a rapid pace as new discoveries are translated into clinical applications. At KKH, studies are underway to improve management and clinical outcomes for conditions such as laryngomalacia, mastoiditis and abscesses in the head and neck region.

References:
HMDP in Paediatric Otolaryngology (ENT)

The search for pioneering treatment modalities for complex paediatric airway, sinus and otology disorders brought Paediatric Otolaryngologist, Dr Dawn Teo, to the Children’s Medical Centre (CMC) in Dallas, Texas.

Paediatric sleep disordered breathing

Famous for their hearty southern fare and juicy cowboy steaks, it comes as no surprise that Texas and the southern states are experiencing a growing problem of obesity. Hence, in addition to a comprehensive paediatric otolaryngology programme, the CMC is also known for its pioneering work in the surgical management of paediatric sleep disordered breathing (SDB).

Sleep disordered breathing describes a range of sleep disorders, including snoring and obstructive sleep apnoea (OSA). The term OSA describes recurrent episodes of partial or complete upper airway obstruction with disturbance of normal respiratory and sleep patterns associated with oxygen desaturations.

The global prevalence of sleep disordered breathing in children ranges from 0.9 percent to as high as 13 percent, increasing alongside the growing incidence of obesity in our population. SDB in children has been shown to negatively impact quality of life, behaviour and healthcare utilisation.

Training at the Children’s Medical Centre (CMC), Dallas

Besides undergoing clinical and surgical training in complex paediatric airway cases, sinus and otology cases, a large proportion of my caseload at CMC dealt with the management of complex paediatric SDB cases. These included children with significant craniofacial anomalies and syndromic children.

Current and novel treatment modalities for SDB

Adenotonsillectomy (T&A) is the first line of treatment for children with SDB. Each year, approximately 500,000 T&A procedures are performed on children in the US. However a significant population of children who have undergone a T&A still experience residual or recurrent symptoms. This is especially prevalent in obese children, syndromic children, and those with craniofacial abnormalities and neuromuscular disease.

Current treatment for paediatric SDB centres on T&A, with continuous positive airway pressure (CPAP) being used for more complex cases. However, CPAP compliance in children is difficult and many children do not tolerate the discomfort associated with it. In severe cases, a tracheostomy may even be necessary to alleviate the airway obstruction and allow oxygenation.

Novel management methods for complex paediatric SDB include comprehensive assessment of the airway, advanced palate and tongue-base procedures and pharyngoplasty. The use of such additional measures has been shown to reduce the number of tracheostomies required, as well as provide a surgical cure for patients who are unwilling to continue with CPAP treatment.

These new modalities are largely due to the work of Prof Ron B. Mitchell, Division Chairman of Otolaryngology, CMC.

Paediatric Obstructive Sleep Apnoea Research

Prof Mitchell is a leader in the field of surgical management of paediatric OSA, and holds several National Institutes of Health (NIH) research grants. Working with him enabled me to participate in collaborations with a bioengineering team from the University of Texas Arlington – exploring new technologies for use in the field of paediatric polysomnography (sleep study).

Fortunately it was not all work; some weekends were kept free for exploration and immersion in the Texan culture. Despite being a busy metropolis, the people in Dallas maintained a warm, respectful southern charm. Conversations were peppered with “Sirs” and “Madams”, and ladies never had to open doors, as the men would keep them open even if you were quite a distance away.
Can eating ‘super foods’ help boost my child’s brain development?

Ang Bixia
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There is no particular super food – it is always best for your child to maintain a healthy balanced diet. However foods which contain DHA, iron and choline may to a certain extent help promote brain development in children.

Docosahexanoic acid (DHA) may influence neurotransmitters in the brain, helping brain cells to communicate better with each other. Foods which contain DHA include oysters, shrimp and cold water fatty fish such as sardines and mackerel. Mothers are encouraged to breastfeed, as DHA is found in breast milk. The recommended intake of DHA for children is one serving (90g) of DHA-rich food two to four times a week.

Iron is important for brain development and cognitive performance. Heme iron is more easily absorbed by the body than non-heme iron. Foods which contain heme iron include meat, poultry and fish. Foods which contain non-heme iron include grains, vegetables and dried fruits such as raisins and apricots. The recommended intake of iron for children aged 1-10 years is 7mg/day. Two servings (180g) of beef or a cup of cocoa-flavoured cereal provides 6-8mg of iron.

Foods rich in vitamin C – such as fresh fruit and lightly cooked vegetables – can help with non-heme iron absorption when eaten with meals.

Choline plays a significant role in fetal and paediatric brain development. Foods which contain choline include meat, poultry, fish, egg yolk and wheat germ. Like DHA, choline is also found in breast milk. The recommended intake of choline for children aged one to three years is 200mg/day and for children four to eight years is 250mg/day. An egg or a serving of pork provides roughly 100mg of choline.

Medical staff’s care from the heart helps a complicated pregnancy

My husband and I would like to show our appreciation for the special care our son Stephen Oon was given by the physicians and staff of KKH throughout his latest 75-day inpatient stay from 30 July 2012 to 12 October 2012.

Stephen is a challenging patient – he has an immuno-deficient condition that requires reverse-barrier precaution. In addition, he has a Hickman Central Venous Catheter and a colostomy to maintain. He underwent intensive IV treatment for pneumonia and a very invasive chest biopsy procedure.

Our physicians – Dr Thoon Koh Cheng and Dr Low Yee (and their teams), Dr Biju Thomas and Dr Liew Woei Kang were professional, kind, caring, understanding and consultative in the treatments and procedures recommended.

From Ward 55, we would like to give special mention to Sister Sim Boon Eng, SSN Jimma, SN Marianne, SN Tanya, SN Ruby and SN Candy who were all very attentive and professional to Stephen’s needs, making his recovery so much easier to achieve.

Other noteworthy nurses include SSN Swapna, who showed genuine care and motherly concern for Stephen’s welfare; SSN Evelyn and SSN Mariam, who were proficient and prompt in administering his IV drugs; and EN Rosita and EN Divina who worked as a team with their staff nurses to follow up on Stephen.

Karen Phua-Oon
New clinic offers holistic mental wellness support for women and children

Women and children now receive holistic mental wellness care and support at Clinic G – a new integrated mental wellness facility located at KK Women’s and Children’s Hospital (KKH).

Clinic G is staffed with a multi-disciplinary group of specialists in psychiatry, psychology and child development, who provide comprehensive and integrated mental wellness support for the needs of women and children. These include disorders in relation to pregnancy and post-partum health, and child and adolescent psychology and psychiatric care.

Between Oct 2012 to Feb 2013, the clinic has had over 2,000 patient attendances for women and children.

“Patients remark how calming and quiet the new environment is, and that they find it a great place to enhance therapeutic relationships,” says Dr Helen Chen, Head and Senior Consultant, Department of Psychological Medicine, KKH.

In keeping with the hospital’s holistic and patient-centered approach to achieve the best outcomes for patients, the clinic also offers psychotherapy, mindfulness therapy as well as relaxation therapy. Facilities include a playroom that provides a safe place for child therapy, such as the ‘Watch, Wait and Wonder’ technique – an infant-led therapy session which helps parents and infants discover new ways of relating to each other.

The new clinic also houses programmes such as heART – a therapeutic art programme for women with cancer, and clinics for referrals from the community-based health programme REACH (Response Early intervention and Assessment in Community mental Health) – a mental health service and network that provides care to children and adolescents with emotional, behavioural and/or developmental disorders in the community.

Singapore Health Quality Service Award honours healthcare professionals

Clinicians, nurses, allied health professionals and administrative staff from KK Women’s and Children’s Hospital (KKH) were recognised for stellar care and service to patients at the 2013 Singapore Health Quality Service Awards (SHQSA), clinching 434 awards at the awards ceremony at Kallang Theatre on 16 January 2013.

Superstar Awards – the awards’ highest accolades – were presented to Senior Dietitian, Lim Siew Choo and Service Quality Assistant Manager, Samantha Ong, from KKH in recognition of their outstanding excellence and dedication to the health and well-being of patients.

Initiated by SingHealth in 2011, the Singapore Health Quality Service Award is Singapore’s first dedicated platform to honour healthcare professionals who have demonstrated commitment to delivering quality care and excellent service. A total of 2,534 healthcare professionals from 19 organisations were recognised this year.

Assistant Manager Samantha Ong’s warm and friendly demeanour and strong dedication to the safety of others enables her to reach out to patients and their family members. Encountering a patient in acute distress late one night, Samantha immediately escorted the patient to receive treatment, remaining with the patient until her husband arrived.

Samantha’s philosophy is to always put herself in her patients’ shoes and serve from the heart.

“I do my best to give patients a smooth and pleasant stay in the hospital so that patients’ families can focus on their loved ones,” she says.

Assistant Manager Samantha Ong
Service Quality Department, KKH

Lim Siew Choo, Senior Dietitian
Department of Nutrition and Dietetics, KKH

Committed to giving her patients the best care possible, Senior Dietitian Lim Siew Choo created a support group for the families of children with inborn errors of metabolism – developing the programme, coordinating logistics and sourcing special dietary products for her patients.

Building trust and rapport with patients is paramount for Siew Choo.

“Once patients trust you, they will share more (information) and this is important in helping them get on the recovery journey,” she says.
Eight-year-old David (not his real name) complained of headaches and stomach-aches, and was refusing to go to school. Weekly visits to the doctor uncovered no illness, and his mother became increasingly frustrated by his behaviour.

David was evaluated by a REACH East mental health team, and it was discovered that he was experiencing severe separation anxiety. A REACH East mental health professional worked together with David, his mother and his school counsellor to help David gradually reduce his anxiety. Today, David is a happy ten-year-old who enjoys classes and school activities.

Early intervention helps children overcome mental health issues

Half of all lifetime mental disorders occur by the mid-teens and some mental disorders start at childhood and adolescence. Robust mental healthcare for children and adolescents allows early detection and intervention for mental health distress in children, and supports their mental wellness during their formative years.

Established in 2007, the REACH (Response, Early intervention, Assessment in Community mental Health) programme is an island-wide community mental health programme for young people in Singapore. Each geographical zone (North, South, East and West) is served by a multidisciplinary team comprising medical doctors, clinical psychologists, medical social workers, occupational therapists and nurses from a host hospital.

Empowering the community’s primary caregivers

The REACH North and South teams are hosted by the Institute of Mental Health (IMH), Singapore, the REACH East team is hosted by KK Women’s and Children’s Hospital (KKH) and the REACH West team is hosted by the National University Hospital System (NUHS).

Be a REACH GP partner

If you are a general practitioner, join your community’s first line of defense against childhood mental illness:

• Free training and practicum in childhood mental health disorders, with CME points awarded
• Close support by REACH team on case management and access to consultation with child psychiatrists

For more information about the REACH mental health programme, visit www.reachforstudents.com or email admin@reachforstudents.com.