

3rd King's John Price Paediatric Respiratory Conference, London, 4th - 6th April 2017

Organised by the King's Paediatric Respiratory Academy, King's College Hospital, London



RCPCH has approved this activity for CPD in accordance with the current RCPCH CPD Guidelines.



CONFERENCE DIRECTOR
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Welcome

A warm welcome to all our regular friends. And to our new delegates, thank you for coming.

The organising committee & King's Paediatric Respiratory Team are delighted to welcome you to the 3rd King's John Price Paediatric Respiratory Conference. This conference has acquired an outstanding reputation among professionals as a platform for sharing new information and discussing controversial issues about respiratory problems in children.

Following the success of previous conferences and your invaluable feedback we have made a few improvements to the conference. This year the faculty comprises of leading specialists and researchers from Brisbane, Colorado, Munich, Columbia University, the Mayo Clinic, Copenhagen, New Delhi, Rotterdam, Glasgow, Edinburgh, Sheffield, Southampton and London. As with last year the workshops, courses and masterclasses are now taking place on a separate day and this year six pre-conference interactive courses / masterclasses will be held on the 4th April 2017. All our registration and feedback forms are also on-line, with the aim of making these processes easier for the committee and attendees. We are again holding poster presentations and welcome contributions from around the world. We are extremely grateful to the Ella Roberta Family Foundation for their generous support in providing prizes for the best asthma abstract.

The theme for the first day of the conference this year will be "Controversies and Consensus – New Dimensions to explore". We aim to discuss the latest evidence in the management of a diverse range of paediatric respiratory problems, particularly addressing difficult and controversial issues. The theme for the second day of the conference will be "Current Practice and Future Perspectives". It will try to offer some practical solutions to difficult paediatric respiratory issues.

We would like to take this opportunity to thank our speakers for sharing their knowledge and our sponsors and exhibitors for helping us to provide this opportunity to strengthen our networks and communities of practice. And finally thank you to our great team; who make it all happen: Keisha, Don, Hazel, Nicki, Mo, Sue, Rania, Cara, Beccy, Cait, Mira, Katie, Dammy, Emily, Ayesha, Shad, Alec, Ronjon, Naiyan and Vivette.

We hope you enjoy the event and take away valuable learning experiences that you can apply in your practice.

Very warm regards,

Atul
Dr Atul Gupta
Conference Director

FACULTY

International Faculty

Prof Hans Bisgaard, Copenhagen
 Prof Anne Chang, Brisbane
 Prof Erika von Mutius, Munich
 Dr Paolo Pianosi, Mayo Clinic
 Dr Benjamin Schwartz, Columbia University
 Prof Varinder Singh, New Delhi
 Prof Stanley J Szefer, Colorado
 Pierluigi Ciet, Rotterdam

National Faculty

Dr Francois Abel, London
 Dr Rania Abusamra, King's
 Kannar Ahmed, King's
 Dr Pam Allen, King's
 Dr Omowunmi Akindolie, King's
 Dr Nicki Barker, Sheffield
 Dr Noel Baxter, London
 Dr Cara Bossley, King's
 Dr Nicola Brathwaite, King's
 Dr Simon Broughton, King's
 Prof Andy Bush, London
 Dr Elly Castellano, London
 Suja Chandran, King's
 Dr Simon Chapman, King's
 Fay Coster, King's
 Prof Steve Cunningham, Edinburgh
 Prof Anil Dhawan, King's
 Emily Downing, King's
 Dr Yaya Egberonge, King's
 Dr Hazel Evans, Southampton
 Dr Katherine Fawbert, King's
 Dr Louise Fleming, London
 Jo Gavlak, Southampton
 Prof Anne Greenough, King's
 Dr Atul Gupta, King's
 Dr Dominic Hughes, King's
 Sarah Latham, King's
 Dr Susan Leech, King's
 Paula Lowe, Southampton
 Bhumika Mittal, Bromley
 Andrew Morley, Glasgow
 Dr Rachael Morris-Jones, King's
 Mira Osinibi, King's
 Dr Cathy Owens, London
 Prof John Price, King's
 Prof Graham Roberts, Southampton
 Dr Meredith Robertson, King's
 Dr Gary Ruiz, King's
 Prof Sejal Saglani, London
 Dr Tom Semple, London
 Prof Ros Smyth, London
 Dr Huileng Tan, London
 Charlie Tyack, London
 Dr Don Urquhart, Edinburgh

PAEDIATRIC SLEEP

Pre-conference Course/Masterclass - TUESDAY 4 APRIL

This session focuses on physiology and function of sleep, investigations and long term consequences of sleep disordered breathing. The session will also discuss interpretation of home oximetry & respiratory sleep studies and case based discussions.

9:00	Registration
9:30	Sleep Hygiene/Good Habits Charlie Tyack, London
10:00	What is normal and abnormal breathing in sleep? Dr Don Urquhart, Edinburgh
10:35	Paediatric sleep studies - Who, why, when, where? Dr Huileng Tan, London
11:10	Coffee / Tea
11:40	Management guidelines & care pathways to manage respiratory sleep disorder Dr Francois Abel, London
12:15	Where does oximetry fit in the diagnostic pathway for sleep disordered breathing Dr Hazel Evans, Southampton
12:40	Q & A session (All speaker's)
13:00	Lunch
	Choice of one workshop below
14:00 - 17:00	Workshop A: Paediatric Oximetry Facilitators: Dr Hazel Evans, Southampton Jo Gavlak, Southampton Paula Lowe, Southampton Workshop will aim to cover 1. Overview of setting up an oximeter and oximetry home service 2. Overview of setting up an home oximetry service 3. How to analyse oximetry traces 4. Case based discussion on weaning children with Chronic lung disease of Prematurity from supplemental oxygen using oximetry as a weaning tool 5. Limitations of oximetry studies
14:00 - 17:00	Workshop B: Paediatric Cardio-Respiratory Sleep Studies Facilitators: Dr Don Urquhart, Edinburgh Andrew Morley, Glasgow Workshop will aim to cover 1. Overview of setting up a cardiorespiratory sleep studies service 2. Interpreting cardiorespiratory sleep studies 3. Case based discussions on interpretation and management of Paediatric Cardio-Respiratory Sleep Studies 4. Non- respiratory sleep disorder

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PAEDIATRIC DYSFUNCTIONAL BREATHING: DIAGNOSIS TO DISCHARGE

Pre-conference Course/Masterclass - TUESDAY 4 APRIL

This course is aimed to provide better understanding of dysfunctional breathing in children from the diagnosis to discharge.

9:00	Registration
9:30	Introductions and Introduction to Dysfunctional Breathing Dr Nicki Barker, Sheffield
10:10	Co-morbidities and contributing factors Dr Louise Fleming, London
11:00	Coffee break
11:30	Basic and advanced diagnostics Dr Paolo Pianosi, Mayo Clinic
12:40	Patient pathway and the MDT approach Dr Louise Fleming, London
13:00	Lunch
14:00	Therapeutic intervention strategies Dr Nicki Barker, Sheffield
14:45	Workshop case studies Dr Nicki Barker, Dr Louise Fleming, Dr Paolo Pianosi <ul style="list-style-type: none"> • Application of learning to real case situations • Interpretation of diagnostic information • Discussion of different management options • Multidisciplinary working for patient benefit Coffee Break
16:00	Trouble shooting and questions/discussion Dr Nicki Barker, Dr Louise Fleming, Dr Paolo Pianosi <ul style="list-style-type: none"> • Barriers to success • Approaches to challenging patients Opportunities for questions/discussion and closing remarks
16:30	Feedback and close

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HOT TOPICS IN PAEDIATRIC RESPIRATORY

Pre-conference Course/Masterclass - TUESDAY 4 APRIL

Hot topics in Paediatric Respiratory: Pre-conference update course for Primary care.

8:30	Registration
8:55	Overview and introduction to the day Dr Atul Gupta, King's
09:00	Diagnostic dilemma in diagnosing asthma in Preschool Age Dr Gary Ruiz, King's
09:15	Diagnosing Asthma in Children & young adults Dr Gary Ruiz, King's
09:30	What do I need in my surgery to safely manage an acute asthma attack in children? When do i refer to hospital - acute events? Dr Noel Baxter, London
09:45	Asthma monitoring in Primary Care Dr Rania Abusamra, King's
09:55	Asthma management in Primary Care Dr Rania Abusamra, King's
10:10	Writing a personal asthma plan Dr Rania Abusamra, King's
10:15	Asthma Q & A Dr Gary Ruiz, Dr Rania Abusamra, Dr Noel Baxter, Dr Atul Gupta
10:30	Networking / Tea / Coffee / Exhibition
10:50	Management of Preschool Wheeze Dr Atul Gupta, King's
11:05	Management of Chronic Cough Dr Atul Gupta, King's
11:20	Viral Bronchiolitis Dr Dominic Hughes, King's
11:35	Who needs Sleep Studies? Emily Downing, King's
11:45	Respiratory Q & A Dr Atul Gupta, Dr Gary Ruiz, Dr Rania Abusamra, Dr Dominic Hughes, Emily Downing
12:10	Lunch / Networking / Exhibition viewing
13:00	Management of Atopic Eczema in primary care Dr Rachael Morris-Jones, King's
13:20	Allergy testing in Primary care Dr Susan Leech, King's
13:40	Management of Food Allergies in primary care Dr Katherine Fawbert, King's
14:05	Milk Allergy Guideline Kanar Ahmed, King's
14:30	Networking / Tea / Coffee / Exhibition
14:50	New Anaphylaxis Guidelines Dr Nicola Brathwaite, King's
15:10	Allergic Rhinoconjunctivitis / Who needs immunotherapy? Dr Susan Leech, King's
15:35	Which patients need referring to allergy clinic & which can be managed in primary care? Dr Nicola Brathwaite, King's
16:00	Q and A Session Dr Nicola Brathwaite, Dr Susan Leech
16:30	Close

Fetal Medicine Research Institute, King's College Hospital, 16-20 Windsor Walk

PAEDIATRIC THORACIC IMAGING

Pre-conference Course/Masterclass - TUESDAY 4 APRIL

This one day course is especially designed and intended for all grades paediatricians and respiratory clinicians who are looking to gain more experience of understanding paediatric thoracic images. At the end of this course you will be able to recognise different patterns of lungs disease in chest X-rays and CT scans which will eventually help with diagnosis and management

8:30	Registration
8:50	Welcome & introduction Dr Rania Abusamra, King's
9:00	Pre course images assessment Dr Rania Abusamra, King's
9:30	Chest X-ray Part 1: Dr Pam Allen, King's
10:10	Chest CT scan Part 1: Dr Pam Allen, King's
10:50	Coffee break
11:20	Chest X-ray Part 2: Back to basics of conventional radiology - Reading Chest Skiagram in a child Dr Varinder Singh, New Delhi
12:20	Chest CT scan Part 2: Dr Pierluigi Ciet, Rotterdam
13:00	Lunch
14:00	Chest CT scan Part 2: Dr Tom Semple, London
14:40	Newer advances in Thoracic imaging Dr Pierluigi Ciet, Rotterdam
15:10	Risk of radiation in paediatric population Dr Elly Castellano, London
15:40	Coffee break
16:00	Introduction to paediatric cardiac CT Dr Tom Semple, London
16:30	Post course assessment Dr Rania Abusamra, King's
17:00	Course end / feedback

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PAEDIATRIC RESPIRATORY EMERGENCIES

Pre-conference Course/Masterclass - TUESDAY 4 APRIL

Acute respiratory emergencies are the most common reason for paediatric emergency department attendances.

Throughout the day, we will utilise a series of interactive workshops incorporating educational case presentations, practical skills stations and discussions of controversies in clinical management. The clinical diagnoses covered will include acute asthma, pneumonia, croup, foreign body aspiration, epiglottitis, bronchiolitis and pertussis. By the end of the day, you will be armed with knowledge for practical application for those working in paediatric emergency departments.

For further information on this subject please visit www.paediatricrespiratory.com

9:00	Registration
9:25	Welcome and Overview Dr Omowunmi Akindolie, King's
9:30	General Assessment and Initial Management of a Child with breathing difficulties Dr Omowunmi Akindolie, King's
11:00	Coffee break
11:30	Approach to a child with lower airway emergencies Dr Simon Broughton, King's
13:00	Lunch
14:00	Approach to a child with upper airway emergencies Dr Yaya Egberonge, King's
15:00	Coffee break
15:30	Starting Optiflow in an acute setting Ms Emily Downing, King's
17:00	Closing comments

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ASTHMA

Pre-conference Course/Masterclass - TUESDAY 4 APRIL

This session focuses on the practical approach to the assessment, diagnosis and management of children with moderate and severe asthma. There will be updates on recent guidelines and case studies. A session on smoking cessation will highlight the importance of minimising smoke exposure in children with asthma, and practical measures to help. There will be a psychosocial workshop, focusing on adherence, neglect and treatment of chronic disease in adolescence.

09:00	Registration
09:20	Introduction Diagnosis in Asthma and preschool wheeze Dr Cara Bossley, King's
10:10	Monitoring in asthma Sarah Latham, King's Dr Cara Bossley, King's
11:10	Coffee Break
11:30	Management in asthma: What's new? Dr Cara Bossley, King's Sarah Latham, King's Dr Meredith Robertson, King's
13:00	Lunch
14:00	Smoking in asthma Mira Osinibi, King's Dr Meredith Robertson, King's
15:00	Coffee Break
15:30	From adolescence to adherence: Psycho-social aspects of asthma care Dr Simon Chapman, King's Suja Chandran, King's Fay Coster, King's
16:45	Feedback and Close

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3rd King's John Price Paediatric Respiratory Conference

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Main Sponsors



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Controversies and Consensus

Wednesday 5th April 2017

- New Dimensions to explore

Fetal Medicine Research Institute, King's College Hospital, 16-20 Windsor Walk
London, SE5 8BB

8:30	Registration / Tea & Coffee
8:45	Overview and Introduction Dr Atul Gupta, King's
8:50	Welcome Speech Prof Anil Dhawan, King's
Session 1	
9:00	CLDP: from NICU to Adulthood, a lifelong disease Prof Anne Greenough, King's
9:30	RSV vaccines- state of play? Prof Ros Smyth, London
10:00	Oxygen saturation monitoring - can't live with it, can't live without it? Prof Steve Cunningham, Edinburgh
10:30	Tea and Coffee / Networking / Exhibition viewing
Session 2	
11:00	A closer look at long-acting muscarinic antagonists in paediatric asthma? Dr Atul Gupta, King's
11:30	Which asthmatics should be considered for allergen immunotherapy? Current Status of Immunotherapy for Asthma and Allergies Management. Prof Graham Roberts, Southampton
12:00	Wheeze, Allergies & Microbiome Prof Erika von Mutius, Munich
12:30	Lunch / Networking / Exhibition viewing
Session 3	
13:30	Key note lecture: <i>Step-Care Approach to Personalized Medicine for Asthma: Lifespan considerations</i> Prof Stanley J. Szefer, Colorado
14:30	Learning from each other – what should the west learn from resource challenged countries Prof Varinder Singh, New Delhi
15:00	Tea and Coffee / Networking / Exhibition viewing
Session 4	
15:30	Non-CF Bronchiectasis Prof Anne Chang, Brisbane
16:00	There's no rain so get rid of the umbrella - how should we approach airway disease in the 21st century? Prof Andy Bush, London
16:30	CF: the diagnostic conundrum Dr Gary Ruiz, King's
17:00 - 18:00	Poster viewing / Networking / Drinks Reception
18:00	End

Current Practice and

Thursday 6th April 2017

Future Perspectives

Fetal Medicine Research Institute, King's College Hospital, 16-20 Windsor Walk
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8:30	Registration / Tea & Coffee
9:00	Overview and Introduction Dr Atul Gupta, King's
Session 5	
9:00	Management of Respiratory problems in children with Down's syndrome Dr Rania Abusamra, King's
9:15	Pulmonary manifestation of the systemic disorders Prof Varinder Singh, New Delhi
9:40	Weaning children with CLDP from supplemental oxygen using home oximetry as a weaning tool Dr Hazel Evans, Southampton
10:05	Treatment escalation plans for the complex respiratory child Dr Don Urquhart, Edinburgh
10:30	Tea and Coffee / Networking / Exhibition viewing
Session 6	
11:00	Approach to the Management of Breathlessness Prof Paolo Pianosi, Mayo Clinic
11:30	Closing the Gaps of Communication in Asthma Care for Children Prof Stanley J. Szefer, Colorado
12:00	The Narrative Approach: How Storytelling Impacts Care Dr Benjamin Schwartz, Columbia University
12:35	Lunch / Networking / Exhibition viewing
Session 7	
13:30	Key note lecture: <i>Persistent Bacterial Bronchitis: is it a precursor to bronchiectasis?</i> Prof Anne Chang, Brisbane
14:30	Vitamin D & Paediatric Respiratory Dr Atul Gupta, King's
Debate	
14:45	<i>Pro: Pre-school wheeze should be treated with antibiotics</i> Prof Hans Bisgaard, Copenhagen
15:10	<i>Con: Pre-school wheeze should NOT be treated with antibiotics</i> Prof Sejal Saglani, London
15:35	Discussion
15:45	Tea and Coffee / Networking / Exhibition viewing
Session 8	
16:00	CHILD where are we in 2017 Dr Cathy Owens, London
16:35	'Clinical year in review' updates Dr Cara Bossley, King's
16:50	Vote of thanks Dr Atul Gupta, King's
17:00-18:00	Poster viewing / Networking / Drinks Reception
18:00	End

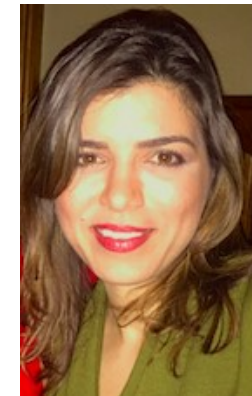


Speakers and Facilitators Biographies

FRANCOIS ABEL

Dr Francois Abel is the medical lead for the Paediatric Sleep Services in Great Ormond Street Hospital, having trained in Respiratory and Sleep in Sydney Westmead Children Hospital and Great Ormond Street Hospital. He has a post graduate in Paediatric Sleep Sciences from the University of Western Australia in 2011. He is the co-chair the British Paediatric Sleep Society with Dr Urquhart from the Children's Hospital in Edinburgh and has been co-organising the national sleep video conference for several years.

His priority is to develop the awareness of paediatric sleep and in particular sleep-related breathing and ventilation disorders focusing on the medical as well as the physiological aspects. He has presented at national and international meetings including the European Respiratory Society, the International Paediatric Sleep Association and the American Thoracic Society. His publications include management of upper airway obstruction in Pierre Robin patients, sleep disordered breathing in craniofacial disorders and review on the research on paediatric OSA amongst others.



Dr Rania Abusamra is a Paediatric Respiratory Consultant at Kings College Hospital. Rania is a graduate of Al Quds University in Jerusalem. She has undertaken paediatric training at a number of London leading hospitals and paediatric respiratory grid training at Addenbrooke's University Hospital in Cambridge.

She is specialised in all areas of paediatric respiratory medicine including asthma, cystic fibrosis, supportive lung disease, sleep medicine and non-invasive ventilation. Her research interests are in asthma; sleep medicine and non-invasive ventilation.

RANIA ABUSAMRA

KANAR AHMED

I specialised in paediatric dietetics five years ago and I currently work at Kings College Hospital with the paediatric allergy, gastroenterology and surgical teams. I did my final year dissertation in paediatrics at Kings College London in 2010, which initially developed my interest in this area. After graduating, I continued my research on diet treatments for children with protein losing enteropathy and have presented my abstract and findings at the Royal Brompton Hospital and the Royal College of Surgeons. I am passionate about research and am part of the Dietitian's Research and Development Group at Kings College Hospital, where I have been researching nutritional status in paediatric neurodisability. I have also had the opportunity to be involved in undergraduate and postgraduate teaching on paediatric allergy and obesity (Kings College London), nutrition in COPD (Imperial College London) and nutrition in paediatric neurodisability (Nutricia study day).

The most rewarding part of my job is helping to improve the health and wellbeing of my patients. I have an interest in service improvement and have developed a referral policy for paediatric clinics at Kings, designed and delivered an effective children's obesity programme in Croydon and have recently been involved in developing the Southeast London Cow's Milk Protein Allergy Guideline. In my spare time I enjoy travel, yoga and cooking and I run an Instagram food blog (@eatwithdietitian) to inspire others to lead a healthy active lifestyle!



Dr Pamela Allen qualified in 1996 from Bart's and the London Medical School with first degree Honours. She also completed a Intercalated BSc in Physiology at University College Hospital with a special interest in Fetal medicine during her degree and again obtained a first class Honours with a Prize. After working in Australia for a year in Emergency Medicine, Anaesthetic and Paediatrics she returned to the UK to complete a SHO rotation in Paediatrics. During this time she was successful in obtaining her MRCP (Paeds) membership examination before starting her career in radiology. She underwent her Radiology Training at Bart's and the London NHS Trust before coming to Kings in 2006 as a locum to become a substantive Paediatric Radiologist Consultant at Kings in 2007. She has continued to develop her interest in Paediatric radiology over the past 10 years heavily involved in teaching and training of Registrars and Medical Students, and being awarded 'Trainer of the Year Award' in 2014 by the Society of radiologists in Training. Furthermore she has since been involved in developing a website introducing Radiology Learning for Medical Students at Kings College London GKT School of Medical Education.

PAM ALLEN

OMOWUNMI AKINDOLIE

Dr Omowunmi Akindolie is a Consultant in Ambulatory Paediatrics at King's College Hospital in London. She is a graduate of the University of Newcastle upon Tyne and has been in her current role since 2009.

In this post, she has led on several significant service redesign projects shaping paediatric services at King's to suit the needs of local children and their families. Recently, this has included a paediatric hospital at home service, a paediatric short stay unit and a consultant paediatrician phone line for GPs.

Her additional areas of special interest include education and training, with a specific emphasis on educating GPs in paediatrics. This serves to bridge the gap between primary and secondary care and thereby optimise healthcare delivery for children and young people.



Nicki is a Clinical Research Fellow and Advanced Physiotherapist at Sheffield Children's Hospital.

She is an expert on Dysfunctional Breathing (DB) and the creator of BreathWorks, the UK's first clinic for paediatric patients with DB. Nicki is also the driving force behind the Sheffield Dysfunctional Breathing Conferences, and presents on DB at events in the UK and Europe. Her other responsibilities include positions on the Scientific Advisory Committee for The Children's Hospital Charity, and the Clinical Research Steering Group at SCH. Nicki is also an integral member of the British Thoracic Society complex breathlessness working group.

Nicki's current research priorities are into the efficacy of physiotherapy for children with DB, developing a tool for the early identification of DB and the development of medical technology to aid diagnosis and treatment of respiratory conditions.

NICKI BARKER

NOEL BAXTER

Noel is an NHS GP in Southwark, London. He is the respiratory champion there, providing peer support to GP and primary care nurse colleagues and working with specialist respiratory colleagues within a population based integrated respiratory service. He is a clinical commissioner for NHS Southwark CCG holding the portfolio for Quality and Safeguarding. He is the current Chair of the Primary Care Respiratory Society (PCRS-UK), leads the primary care workstream of the RCP national chronic obstructive pulmonary disease (COPD) audit for England and Wales and is currently a member of the NICE clinical guideline group for asthma management. Dr Baxter is a clinical advisor to the British Lung Foundation. He was co-lead of the London respiratory strategic clinical network from 2010 until its end in September 2016 and the London Clinical Senate 'Helping smokers quit' delivery team programme that completed in August 2016.



Fifteen years ago, Hans founded the Copenhagen Prospective Studies on Asthma in Childhood (COPSAC) mother-child cohorts, recruiting a total of 1100 pregnant women. Their children are being followed closely at the research clinic according to strict guidelines and with extensive objective assessments. This unique extensive clinical data and the comprehensive biobank are combined with cutting-edge interdisciplinary basic research, including genome wide scanning, sequencing of the microbiome in multiple human compartments, and longitudinal metabolomics to develop a differentiated characterisation of the disease processes. This concept has proven successful as reflected in important discoveries on the role of the human microbiome for the origins of asthma and allergy and the discovery of novel genes and gene-environment interactions. The resonance of the results is illustrated by an increasing number of publications in the highest-ranking international papers as well as patent applications.

HANS BISGAARD

CARA BOSSLEY

Dr Cara Bossley qualified from the University of Manchester in 1998. She trained in Respiratory Paediatrics at the Royal Brompton, Great Ormond Street and King's College Hospitals. Dr Bossley embarked on a research degree at the Royal Brompton Hospital in 2007, investigating airway inflammation and remodelling in children with severe asthma. She was awarded MD(res) at Imperial College in October 2012. Dr Bossley has presented at international conferences, and has 25 scientific publications. Dr Bossley was appointed as consultant in Paediatric Respiratory Medicine at King's in 2013, and is the lead for non-invasive ventilation and sleep. She offers expertise in specialist clinics in difficult asthma, non-invasive ventilation, non-CF bronchiectasis and Cystic fibrosis. Dr Bossley is an active reviewer for a number of paediatric journals including Pediatrics, Archives of Disease in Childhood & PLOS one. Cara is principal investigator in a number of ongoing research projects at King's College Hospital.



Dr Nicola Brathwaite is a Consultant Paediatric Allergist at Kings College Hospital, London, appointed in 2005. She completed her specialist training in Paediatrics and Paediatric Allergy in Cape Town, South Africa. Her interests include all aspects of paediatric allergy especially food allergy, the role of allergy in asthma, allergic rhinitis, drug allergies and allergen immunotherapy.

She is an elected Council member of the British Society for Allergy and Clinical Immunology (BSACI) and serves on the BSACI Standards of Care Committee. She represented the Royal College of Paediatrics on the NICE technology appraisal of Pharmedgen for venom immunotherapy and worked on the RCPCH Allergy Care Pathways project for the Drug, Latex and Venom allergy pathways. She is joint Lead for the Respiratory and Allergy Module and International Child Health modules of the KCL Advanced Paediatrics MSc.

NICOLA BRATHWAITE

SIMON BROUGHTON

Simon is a General Paediatrician at Kings College Hospital. He was appointed in 2007. His PhD thesis is entitled RSV in prematurely born infants – Predictors of outcome.

Simon is course director of the KCL MSc Advanced Paediatrics, which has a second year Respiratory and allergy module organised by John Price and Nicola Brathwaite.

Simon is the RCPCH assistant officer for training, leading on recruitment and retention. He is the South Thames ST 1-5 lead TPD. Simon is also the deputy clinical director of child health at Kings College Hospital.

His research interest is in prediction of deterioration, and is a site lead for the Bedside PEWS EPOCH study.



Currently a Professor of Paediatrics and Head of Section (Paediatrics), Imperial College; Professor of Paediatric Respiriology, National Heart and Lung Institute; and Consultant Paediatric Chest Physician, Royal Brompton & Harefield NHS Foundation Trust.

His research interests include the invasive and non-invasive measurement of airway inflammation in children, in particular the use of endobronchial biopsy in the management of severe asthma, and also respiratory mass spectrometry. He has raised more than £70 million in peer review grants and donations with collaborators. He has supervised 36 MD and PhD degrees, co-authored more than 450 papers in peer review journals, and written more than 100 chapters in books and monographs. He is co-editing the 9th Edition of Kendig's Disorders of the Respiratory Tract in Children, having co-edited the two previous editions. He has been Deputy Editor of the American Journal of Respiratory and Critical Care Medicine (the highest impact factor respiratory journal, the only Deputy Editor from outside North America), and Head of the Paediatric Assembly of the European Respiratory Society. He was the Joint Editor in Chief of Thorax, then the 2nd ranked chest journal in the world, and top-ranked outside North America, the first paediatrician to hold this post. I have served as Associate Editor for Europe for Paediatric Pulmonology and also Deputy Editor for Paediatric Respiratory Reviews. I am an NIHR Senior Investigator, and Principle Investigator in the Asthma UK centres for Applied Research and Allergic Mechanisms of Asthma. I am currently Chief Investigator in a £4.64 million, five year Wellcome Strategic Award investigating how the interactions between epithelial function, the microbiota and the maturing immune system lead to pre-school wheeze and childhood asthma.

ANDY BUSH

ELLY CASTELLANO

Dr Elly Castellano is a consultant medical physicist and head of the Diagnostic Radiology Physics Group at The Royal Marsden. She works closely with radiology and cardiology staff at the Royal Brompton Hospital on optimising respiratory and cardiovascular CT on adults and children.



Anne Greenough is Professor of Neonatology and Clinical Respiratory Physiology, Director of Education and Training at King's Heath Partners Academic Health Science Centre and Board Member of the Higher Education Funding Council for England. She was Chair of the National Institute for Health Research (NIHR) Paediatrics (non medicines) Specialty Group and is now Vice President Science and Research, Royal College of Paediatrics and Child Health.

Professor Greenough is a member of the KCL Research Division of Asthma, Allergy and Lung Biology and the Medical Research Council–Asthma UK Centre in Allergic Mechanisms of Asthma. Her research interests focus on the early origins of chronic respiratory disease and include factors affecting antenatal lung growth, optimisation of respiratory support, determinants of sudden infant death syndrome and prevention and treatment of chronic lung disease, particularly related to viral infections and sickle cell disease.

ANNE GREENOUGH

ANNE CHANG

Professor Anne Chang is an established clinician researcher recognised for her contributions to clinical research in the areas of paediatric cough, bronchiectasis and evidence based articles. She has helped develop and apply evidence based medicine for respiratory illness in children, in Australia and internationally in the areas of cough, bronchiectasis and asthma.

She is the Division Leader of Child Health at the Menzies School of Health Research and leads an Australian National Health and Medical Research Centre of Research Excellence in Indigenous Children's Lung Health.

She has been a NHMRC practitioner fellow since 2004 and has published over 350 peer reviewed articles and book chapters. Her major interest are in Indigenous health issues, evidence based management, airway disease, protracted bacterial bronchitis, cough and suppurative lung disease in children.



Simon is a general paediatrician and adolescent physician. He runs the medical management of eating disorders at South London and the Maudsley hospitals and is also lead for the national group, Marsipan.

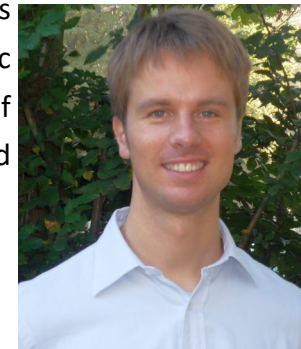
At King's he heads the transition diabetes service for young people moving onto adult services and is currently formally setting up adolescent health services at King's.

SIMON CHAPMAN

PIERLUIGI CIET

Pierluigi's mission is to develop new innovative imaging technique that can be useful as diagnostic and monitoring tools in paediatric and adult thoracic disease. His passion for cardiothoracic imaging started during his residency in the CF center of Treviso (Italy). In that period, he started working on thoracic MRI as possible free-radiation technique to replace CT. After completion of his residency program, Prof. Tiddens offered him a PhD position. Ever since he has worked on developing and integrating new MRI techniques in clinical practice to obtain novel biomarkers which could be useful as diagnostic and monitoring tools for lung diseases.

He has worked on MRI protocol development for several indications to assess lung structure and function, for CF he developed MRI protocols to assess structural changes and inflammation and worked on protocols for the dynamic assessment of airways and diaphragmatic mechanics.



Dr Fay Coster is a Clinical Psychologist who first specialised in paediatric psychology when she joined the National and Specialist Paediatric Liaison CAMHS, based at Kings College Hospital, in 2011. Since 2013 she has worked specifically with children experiencing difficult to manage asthma, cystic fibrosis and other respiratory conditions. Dr Coster graduated from The University of Surrey in 2009 and since achieving qualified status has worked with children and young people in various settings, including service innovation for improving access to psychological therapeutic techniques for young people.

FAY COSTER

STEVE CUNNINGHAM

Steve is a Consultant and Honorary Professor of Paediatric Respiratory Medicine at the Royal Hospital for Sick Children, Edinburgh University since 2000.

In the area of bronchiolitis, Steve is the Chief Investigator for the multicenter HTA funded BIDS study, presented here today. He is also Chair of the NICE Bronchiolitis guideline, and is International Coordinating Investigator for a novel Phase 1 product (Ablynx 0171) for the treatment of RSV and Principle Investigator for a second Phase 1 product (Alios 8176).

In other interests, Steve is part of the core management team and UK Coordinator for an FP7 funded project to study rare interstitial lung disease in children across Europe (ChILDEU), is PI for the recently completed three centre Cystic Fibrosis Gene Therapy Consortium pulmonary multidose gene therapy trial. Steve is also a member of the Asthma UK Centre for Applied Research.



Professor Dhawan graduated in medicine in 1986 and after completing his residency in Paediatrics in India, joined King's College Hospital, London as trainee in Paediatric Hepatology in 1992. In March 1995, he was appointed visiting professor and consultant in paediatric gastroenterology at the University of Nebraska Medical Center, Omaha, NE, and USA. He relocated to King's College Hospital, London in August 1996 as consultant Paediatric Hepatologist. He was appointed Professor of Paediatric Hepatology at Kings College London in 2005. He became Director of the Paediatric Liver Center and the Head of the Paediatrics department of King's College Hospital, London in 2009.

Prof Dhawan's basic science research interest is liver cell transplantation. His lab was the first to transplant human liver cells in UK for liver based metabolic disorders and first in the world to transplant human hepatocytes in alginate beads to treat acute liver failure in children.

Prof Dhawan's other research interests are outcome of children after liver transplantation, immunosuppression, metabolic liver disease and acute liver failure. He has published over 300 research papers and edited 4 books in paediatric hepatology and human hepatocyte transplantation.

ANIL DHAWAN

EMILY DOWNING

Emily Downing graduated from The University of Nottingham with a Masters in Nursing Science. She worked at Great Ormond Street Children's Hospital on a busy Specialist Respiratory Ward including High Dependency and the Transitional Care Unit for Long Term Ventilated Children.

Following on from GOSH, Emily joined King's College Hospital team as a Nurse Educator co-ordinating the roll out of the Bedside Paediatric Early Warning System. Emily has presented studies of Bedside-PEWS at national and international meetings and was awarded Paediatric Nurse of the Year 2014 at King's College Hospital for her work in rolling out Bedside-PEWS across Child Health and integrating this into the Culture of King's College Hospital.

Emily is currently working at King's as a Respiratory Clinical Nurse Specialist for children.



Consultant Paediatric Intensive Care at King's College Hospital

YAYA EGBERONGBE

HAZEL EVANS

Hazel Evans is a consultant respiratory paediatrician working at the University Hospital Southampton NHS Foundation Trust.

She leads the respiratory diagnostic sleep and long term ventilation services. She is actively involved in research and has a number of publications in the field of paediatric sleep disorders.

She is interested in improving patient care through education of other health professionals and service development.



Katherine Fawbert is a senior paediatric trainee currently working in paediatric allergy at King's College Hospital. Her particular clinical interests are in allergy, gastroenterology, nutrition and global health. Katherine has great enthusiasm for medical education and worked as a fellow in medical education for The London School of Paediatrics (2013-14). She has research interests in the nutritional status of children with chronic illness, and is completing her MSc dissertation on body composition in the context of inflammatory disease.

KATHERINE FAWBERT

LOUISE FLEMING

Dr Louise Fleming is a Clinical Senior Lecturer in Respiratory Paediatrics at the National Heart and Lung Institute and Consultant Respiratory Paediatrician at the Royal Brompton Hospital with a clinical and research interest in children with problematic asthma.



Johanna Gavlak (Specialist Clinical Physiologist; PhD) and Paula Lowe (Senior Sleep Physiologist; RNC) lead the bustling Paediatric Sleep Service at Southampton Children's Hospital. The service offers attended diagnostic respiratory polygraphy studies in two dedicated ward bedrooms 6-7 nights per week, weekly ventilation initiation and titration studies in conjunction with the Long Term Ventilation service, and performs full PSG/MSLT and MWT studies on dedicated monthly weekends. The service also provides a range of ward based studies for children with complex needs who require high levels of nursing care. Johanna and Paula developed and run a popular home service which trains families to successfully perform pulse oximetry, oximetry and polygraphy studies in the familiar environment of the patients' bedrooms. They also lead Pulse Oximetry study days for health professionals throughout the South, and have a strong research interest with abstracts accepted at national and international Sleep Conferences.

JO GAVLAK AND PAULA LOWE

ANNE GREENOUGH

Anne Greenough is Professor of Neonatology and Clinical Respiratory Physiology, Director of Education and Training at King's Heath Partners Academic Health Science Centre and Board Member of the Higher Education Funding Council for England. She was Chair of the National Institute for Health Research (NIHR) Paediatrics (non medicines) Specialty Group and is now Vice President Science and Research, Royal College of Paediatrics and Child Health.

Professor Greenough is a member of the KCL Research Division of Asthma, Allergy and Lung Biology and the Medical Research Council–Asthma UK Centre in Allergic Mechanisms of Asthma. Her research interests focus on the early origins of chronic respiratory disease and include factors affecting antenatal lung growth, optimisation of respiratory support, determinants of sudden infant death syndrome and prevention and treatment of chronic lung disease, particularly related to viral infections and sickle cell disease.



Dr Gupta is a Consultant in Paediatric Respiratory Medicine at King's College Hospital and Honorary Senior Lecturer at King's College, London.

He trained in respiratory paediatrics at Newcastle, the Royal Brompton and Great Ormond Street. After his clinical training, he spent two years in full time research on vitamin D and Severe Asthma in children for his MD(Res) thesis at Imperial College, Royal Brompton and King's College.

He is lead for poorly controlled asthma. He has over 50 scientific publications, as well as national and international presentations in areas including asthma, cystic fibrosis, cough and sleep medicine.

He is a lead investigator in a number of ongoing research projects. Dr Gupta also acts as reviewer for a number of national and international journals and has delivered lectures at major international congresses.

ATUL GUPTA

DOMINIC HUGHES

Having graduated as a Biochemist from Nottingham University, Dominic completed a post-graduate research degree into the effects of cigarette smoke on alveolar macrophages at the north west lung research centre in Manchester. He then qualified in medicine at Warwick University before moving to London for his clinical training.

Dominic is now a Paediatric Respiratory GRID trainee in London, currently working at Kings College Hospital. He is due to begin a period of full time research registered with Imperial College London as the paediatric cystic fibrosis fellow at the Royal Brompton Hospital in September 2017



Sarah Latham is a Senior Paediatric Respiratory Nurse Specialist at King's College Hospital. She has run a nurse-led respiratory clinic for over twenty years where she sees children and young people with asthma as well as children who have been admitted with acute asthma/viral wheeze and is a nurse-prescriber.

She also sees children and young people at the Difficult Asthma Clinic, alongside a Consultant Respiratory Paediatrician.

Sarah is a trainer at Education for Health in Warwick and teaches on Paediatric Asthma. She was chair of the RCN Paediatric Respiratory Nurses Group, a role she had for three years and was also a member of the Executive Committee of the British Paediatric Respiratory Society. Sarah is lecturing on the new MSc in Advanced Paediatrics, run by King's College and has also lectured both nationally and internationally on paediatric asthma.

SARAH LATHAM

SUSAN LEECH

Dr Leech has been a consultant paediatric allergist at Kings College Hospital NHS Foundation Trust since 2001 and Leads the South East Regional Paediatric Allergy Network. She was Chair of the Paediatric group of the British Society for Allergy and Clinical Immunology from 2010 – 2015 and is a member of the BSACI Standards of Care Committee. She is the London representative on the Paediatric Medicine Clinical Reference group for NHS England and the UK delegate to the European Training Committee for Paediatric Allergology.



Bhumika is a part-time GP and Clinical Lead for Children and Young People (CYP) at Bromley CCG. She completed her GP training in Bromley in 2013 and joined Bromley CCG in 2015 after finishing her Darzi Fellowship year in Clinical Leadership and Management. Paediatric asthma is an area that has been of interest and she is currently working towards developing care-pathways for children with asthma and improving Primary care services for CYP in Bromley.

BHUMIKA MITTAL

ANDREW MORLEY

Andrew Morley is the lead Sleep Physiologist at the Royal Hospital for Children (Glasgow). Having graduated from Glasgow University in 1997 he has gone on to work in the field of sleep medicine over the last fifteen years. He has experience in both Clinical & Research settings which included working at the University of Auckland. He is currently a member of the British Sleep Society executive committee and Association for Respiratory Technology and Physiology Sleep & Paediatric committees.



Prior to studying medicine Dr Morris Jones undertook a degree in Parasitology, and then research at the London School of Hygiene and Tropical Medicine. She studied medicine at the University of Wales. As a student she was awarded the Society of Tropical Medicine Elective Travel Fellowship and prize for her work with HIV patients in West Africa, and completed her medical degree with honours. She undertook her junior medical training at St Mary's Hospital in Paddington. After attaining membership of the Royal College of Physicians, she worked in Accident and Emergency Medicine before moving into Dermatology at St Thomas' Hospital. During her training at the St John's Institute of Dermatology, she was awarded a Wellcome Training Fellowship to complete a PhD which characterised the role of melanin as a virulence factor in cutaneous fungal infections. She then came to King's College Hospital to complete her Dermatology training and started work as a Consultant in 2008. She runs specialist cutaneous infection clinics at King's alongside her general and paediatric clinics plus a hyperhidrosis service. Dr Morris Jones is Deputy Head of Phase 4 for the Medical School at King's College London. She is the lead dermatologist for tropical dermatology teaching for the Diploma in Tropical Medicine and Hygiene, based in London and Tanzania.

RACHAEL MORRIS-JONES

ERIKA VON MUTIUS

Erika von Mutius is Professor of Pediatrics and holds a degree in Epidemiology from Harvard School of Public Health, USA. She is head of the Asthma and Allergy Clinics at the Dr von Hauner Children's Hospital of Ludwig-Maximilians-University Munich and the Munich University Asthma and Allergy Research Group (www.asthma-allergy.de).

Professor von Mutius' working group has been actively involved in design, implementation and data analysis of many large, Pan-European multicenter and interdisciplinary projects, including birth cohort studies, addressing the role of genetic and environmental, particularly microbial factors for the development of asthma and allergic diseases.



Clinical Nurse Specialist at King's College Hospital

MIRA OSINIBI

CATHY OWENS

Dr Catherine M. Owens is a Consultant Radiologist and Reader at the University College London (UCL). She has worked at Great Ormond Street Hospital (GOSH) since 1996.

Dr Owens was Chief Fellow in Paediatric Radiology at the Sick Children's Hospital in Toronto in 1993/1994. She was then appointed as Consultant Pediatric Radiologist at St Mary's Hospital where she worked until 1998. She began working part-time at Great Ormond Street Hospital (GOSH) in 1996 becoming a full-time Consultant Paediatric Radiologist in 1999.

She has held many national and international leadership posts. She is an honorary member of the American Society for Paediatric Radiology (awarded 2011) and co-founder of the World Federation of Paediatric Imaging.

Dr Owens was appointed as Reader UCL in 2008 and has written more than a hundred peer reviewed articles and over 20 chapters focussing on cardiothoracic CT, radiation protection in CT and radiology in the immunocompromised patients and in Cystic Fibrosis.

She has lectured at over 150 national and international congresses and supervised higher degrees and diplomas, acting as liaison/host for the European School of Radiology fellowships and has held grants in excess of £5 million.



Dr Pianosi was born & raised in a Northern Ontario city straddling the Great Lakes. He attended University of Toronto from whence he received his MD. He went on to internship & residency at University of Ottawa in Canada's capital, after which he completed his Respiriology fellowship funded the Canadian CF Foundation. His initial faculty appointment was at University of Manitoba on Canada's prairies, where he spent his 1st 7 years. He then moved to Dalhousie University on Canada's East Coast where he received tenure as an associate professor. After 8 years in Halifax he moved to Mayo Clinic where he spent the last 12 years, attaining full professorship there.

Though a respirologist, his principal interest is exercise physiology – most recently dyspnea & flow limitation during exercise in children & adolescents. Similarly, he is an avid athlete, having played (American) football, basketball, and still enjoys playing hockey. His first language was Italian, until his parents learned English, he hopes to retire there, but not for several years yet.

Then you can say what you like about my publications.

PAOLO PIANOSI

JOHN PRICE

Professor John Price was appointed Consultant Paediatrician at King's College Hospital in 1978 where he founded the Paediatric Respiratory and Cystic Fibrosis Service.

During his career he was Professor of Paediatric Respiratory Medicine, King's College London, Head of the Academic Department of Child Health and Director of Children's Services in the Variety Children's Hospital.

He is now semi-retired but continues to teach Paediatric Respiratory Medicine at King's College.

He is a past Chairman of the British Paediatric Respiratory Society, Asthma UK, the Specialist Advisory Committee in Paediatric Respiratory Medicine of the RCPCH and the Cystic Fibrosis Newborn Screening Programme Advisory Board. He has been Paediatric Editor of Respiratory Medicine, a member of the Editorial Board of the European Respiratory Journal, a member of the Council of the European Respiratory Society and the British Thoracic Society and a Trustee of the British Lung Foundation. He is currently a Vice President of Asthma UK and a Trustee at the Cystic Fibrosis Trust and Demelza Hospice Care for Children.



Graham Roberts completed his training in paediatric respiratory medicine at The London Hospital and the Royal Brompton Hospital.

Graham Roberts took up an appointment as a clinical senior lecturer in paediatric allergy and respiratory medicine in October 2004. He was promoted to Reader in 2007 and to Professor in 2011. He is also the Co-Director of the David Hide Asthma and Allergy Research Centre on the Isle of Wight. He is a member of the Executive Committee of the European Academy of Allergy and Clinical Immunology and, until June 2014, was Chair of the Pediatric Section.

Graham Roberts's has a translational epidemiological research programme. It focuses on the pathogenesis and natural history of childhood asthma and food allergy together with the development of new strategies to improve the management of these clinical problems. This involves studies in Southampton, at the David Hide Asthma and Allergy Research Centre in the Isle of Wight and in collaboration with colleagues at the Evelina Children's Hospital, St Thomas's Hospital, London.

Graham Roberts works clinically within the Southampton University Hospital NHS Trust as a consultant paediatrician specialising in allergy and respiratory medicine. Additionally he oversees the undergraduate child health teaching programme.

Graham Roberts works clinically within the Southampton University Hospital NHS Trust as a consultant paediatrician specialising in allergy and respiratory medicine. Additionally he oversees the undergraduate child health teaching programme.

GRAHAM ROBERTS

MEREDITH ROBERTSON

Meredith is a Darzi Fellow in Paediatric Asthma at King's College Hospital. Her work focuses on increasing integration between asthma services in Primary, Secondary and Tertiary Care in order to improve outcomes for children in South London, including avoiding acute exacerbations and attendances to the Emergency Department.

She has a Philosophy degree from King's College, London and graduated from The University of Glasgow Medical School in 2003.

Her post-graduate training in General Paediatrics with a Special Interest in Paediatric Respiratory Medicine was primarily in the East of England.

She was the first UK Paediatrician to be awarded the HERMES diploma by the European Respiratory Society.

In her spare time she is learning to speak Swedish and is an amateur silversmith.



Dr Ruiz is a Consultant Respiratory Paediatrician and Head of Paediatric Respiratory at King's College Hospital, London.

Dr Ruiz qualified from King's College Hospital Medical School in 1982 and followed a career in paediatrics. He received specialist training in paediatric respiratory medicine in London and Birmingham and was a research fellow working with Professor John Price in asthma and allergy.

He was appointed consultant in 1994 on returning to King's, where he created the paediatric TB clinic and paediatric bronchoscopy and empyema services. He became head of Paediatric Respiratory Medicine in 2010 on Professor Price's retirement.

Dr Ruiz has wide interests in all aspects of respiratory disease in children, but particularly lung infection, including tuberculosis and mycobacterial disease in cystic fibrosis.

He has been the BPRS representative on the BTS tuberculosis SAG since December 2012. He is also a member of the ERS and ECFS and was a Trustee of the BLF.

SEJAL SAGLANI

SEJAL SAGLANI

Sejal Saglani completed her undergraduate degree in medicine at the University of Leicester. Dr Saglani then undertook her clinical training in general paediatrics in the Thames Region. Further training at The Royal London Hospital, Great Ormond Street Hospital and The Royal Brompton Hospital allowed her to obtain her Certificate of Specialist Training in Respiratory Paediatrics.

Dr Saglani took time out of her clinical training to carry out her postgraduate research at the National Heart and Lung Institute and The Royal Brompton Hospital, funded by Asthma UK, and supervised by Professor Andrew Bush and Professor Peter Jeffery. She obtained her MD degree investigating the pathology of infant and preschool wheeze and received the NHLI Thesis prize for best thesis. Her main clinical interests include the diagnosis and management of difficult asthma in children and also the management of severe infant and preschool wheeze.

Subsequent to completing her clinical training, Dr Saglani obtained a British Lung Foundation Research Fellowship to develop a neonatal mouse model of allergic airways disease. The establishment of this model has allowed her to obtain a Wellcome Intermediate Clinical Fellowship.

Dr Saglani's research interests include the pathology of infant and preschool wheeze, mechanisms of onset of airway remodelling in severe preschool wheeze and disease modifying therapies for preschool wheeze and childhood difficult asthma.



Benjamin Schwartz is a member of the faculty at Columbia University Medical Center, working with both the Departments of Surgery and Medicine. His work focuses on using visual storytelling techniques and the principles of Narrative Medicine to train expressive, empathetic physicians and on developing engaging educational content for the web and social media to improve health literacy amongst the general population.

He is also a staff cartoonist for The New Yorker magazine, where he sneaks his daughter's name into each of his cartoons.

He received his B.A. and M.D. from Columbia University.

BENJAMIN SCHWARTZ

TOM SEMPLE

Tom graduated from King's College London and completed his radiology training on the University College London Hospital training scheme. He discovered paediatric thoracic and cardiac imaging whilst on attachments at Great Ormond Street Hospital with Cathy Owens and The Royal Brompton Hospital with Mike Rubens and is now one year into a 2 year, post-CCT fellowship, aiming to formalise that experience through continued involvement in MDTs at both hospitals whilst undertaking an MDres degree at Imperial College's National Heart and Lung Institute, exploring the utilization of ventilation MR techniques in CF and PCD.



Dr Varinder Singh was a Commonwealth Academic Staff Fellow at the Paediatric Respiratory Department at the Royal Brompton Hospital in 2003 to 2004.

He is a Director Professor at the Lady Hardinge Medical College and associate at Kalawait Saran Children's Hospital in New Delhi. He has been published in over 100 national and international journals and is an author and editor for several books and sections.

He is the Chairperson of the Indian Academy of Paediatrics Respiratory Chapter. He is also a founding member of the Asian Paediatric Pulmonology Society, Country Representative for the International Board of the International Paediatric Pulmonology Congress since 2005.

He is a member of the Expert Group on ARI and TB guidelines for MOHFW, Government of India and a Technical Expert for the TB Elimination Strategy for India.

VARINDER SINGH

ROSALIND SMYTH

Rosalind Smyth is Director of the UCL Institute of Child Health and Honorary Consultant Respiratory Paediatrician and non-executive director of Great Ormond Street Hospital NHS Foundation Trust. She graduated in medicine from Clare College, Cambridge and Westminster Medical School and trained in paediatrics in London, Cambridge and Liverpool. Until September 2012, she was Professor of Paediatric Medicine in at the University of Liverpool and was Director of the NIHR Medicines for Children Research Network, which supported all clinical research with children in England, from 2005-2012. Her research interests include viral/host interactions in the airways, drug safety and efficacy in children. She is a fellow and recent council member of the Academy of Medical Sciences and was awarded CBE in 2015 for services to the regulation of medicines for children.



Stanley J. Szefler, M.D.'s major contributions are directed toward the appropriate use of long-term control therapy in asthma, including the recognition of variability in response to asthma therapy. He has identified biomarkers and asthma characteristics that can be used to individualize asthma therapy at all levels of severity. Dr. Szefler is the Research Medical Director and Director of the Pediatric Asthma Research Program in the Breathing Institute of the Pediatric Pulmonary Section at Children's Hospital Colorado and Professor of Pediatrics at the University of Colorado Denver School of Medicine.

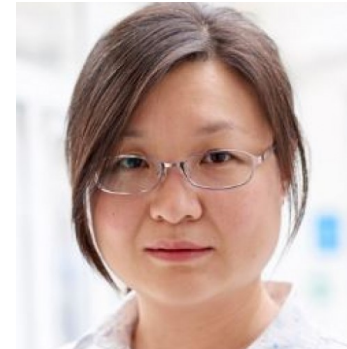
Dr. Szefler is the Principal Investigator for the Denver site of the NHLBI AsthmaNet-Pediatrics Section. He has also been a member of the Expert Panel for the National Heart, Lung, and Blood Institute's National Asthma Education and Prevention Program on "Guidelines for the Diagnosis and Management of Asthma" and a member of the Global Initiative for Asthma Science Committee and Board of Directors. Since 1997, he has been a Deputy Editor for the Journal of Allergy and Clinical Immunology.

For the past ten years, he has directed a school-centered asthma program funded by the Colorado Department of Public Health and Environment Cancer, Cardiovascular and Pulmonary Disease Program and Glaxo Smith Kline. This program seeks to define the prevalence and severity of asthma in Colorado school systems, identify those most significantly affected, establish lines of communication between schools and medical providers, and to assure that these children have state of the art asthma care. His goal is to make this program available to schools nationally with limited resources for supporting children with asthma.

STANLEY J SZEFLER

HUILENG TAN

Dr. Hui-leng Tan MBBChir, MD(res)
Consultant in Paediatric Respiratory and Sleep Medicine
Royal Brompton Hospital



Charlie Tyack is a clinical psychologist in the Evelina London sleep team, having previously worked there during his training. He also used to run insomnia groups with adults as part of a randomised controlled trial in primary care when he worked in the IAPT programme in North London. Throughout his mental health career, he has noticed the significance of the relationship between sleep and wellbeing. He lived and worked in Japan for two years, where he saw how different cultural framings of sleep can lead to different meanings and behaviours being attributed to it.

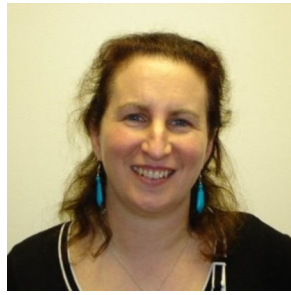
CHARLIE TYACK

DON URQUHART

Don Urquhart is a Consultant and Honorary Senior Lecturer in Paediatric Respiratory Medicine at the Royal Hospital for Sick Children, Edinburgh. He trained in respiratory paediatrics in London (Royal Brompton and Great Ormond Street Hospitals) before undertaking a sleep fellowship in Brisbane. His MD research studied the relationship of sleep and exercise hypoxia with measures of inflammation in children with Cystic Fibrosis (CF).

Don set up the UK paediatric sleep videoconferencing network in 2009 which became the British Paediatric Sleep Association in 2016. His post in Edinburgh has a large clinical caseload of children with respiratory sleep problems. His current research (funded by Action Medical Research and The RS MacDonald Charitable Trust) is focussed on the prevalence of sleep-disordered breathing in children with epilepsy.

In addition, Don is a member of the Exercise Working Group of the European Cystic Fibrosis Society and the European Respiratory Society Task Force on Standardisation of Exercise Testing in Respiratory Disease. He is UK co-ordinator for ACTIVATE-CF, an international randomised, controlled trial of exercise in CF, as well as being local PI on several clinical trials of investigational medicinal products in Cystic Fibrosis.



Sara is Programme Lead for the Healthy London Partnership, Children and Young People's Transformation Programme, with a specific focus on long term conditions. She

trained as a nurse at Westminster Hospital and the Royal Brompton. She was elected to the role of Registered Nurse on the Governing Body at Bromley Clinical Commissioning Group in 2012 and awarded the title of Queen's Nurse in 2015 from the Queens Nursing Institute. With 30 years' experience, Sara has held a variety of innovative operational and strategic roles within primary, secondary and tertiary care. From local practice nurse to Associate Director of South London Cardiovascular and Stroke Network, she has been involved with the national Primary Care, Coronary Heart Disease and Healthier Community Collaboratives. She established nurse-led cardiothoracic preadmission clinics and was the first thoracic surgical assistant in the country in the 1990's. She is an editorial board and founding member of the British Journal of Cardiac Nursing and has published in both medical and nursing press, including two books chapters. More recently she has led the development of the London acute care standards for children and young people, the London asthma standards and the London asthma toolkit as well as a number of publications to assist schools in managing long term condition's. She is passionate about prevention and improving systems and care.

SARA NELSON

Poster Presentations and Prizes



Posters will be available for viewing from 17:00 to 18:00 on the 5th and 6th of April.

Lecture Theatre

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A1	A2	A3	A4	A5	A6	A7

F2	F1	E2	E1
	F5	F4	F3

Categories

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- B Cystic Fibrosis**
- C Respiratory Infections**
- D Chronic Lung Disease**
- E Non Invasive Ventilation**
- F Case studies**

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A: Asthma

A1 Does Direct Observed Therapy (DOT) in children with asthma improve symptom control and quality of life?

Alex Paes, Anil Shenoy

Bradford Royal Infirmary

Introduction and aims

Children with poorly controlled asthma often have suboptimal compliance.

DOT involves coordination of asthma prophylaxis administration by an Asthma Specialist Nurse and Schools. The nurse also supports the children and their families. We aim to analyse whether DOT improves symptoms and quality of life, and reduces acute exacerbations.

Methods

In Bradford, there have been 5 children in the DOT service since its creation. We retrospectively collected data on them using hospital notes, electronic discharge summaries, and GP records (System1). Markers of asthma control are listed in the table below. We were unable to obtain school attendance for all the children. We compared data for the year before and the year after commencing DOT.

Results

2 children received DOT due to frequent inhalers use and steroid courses. In the 2 year period they had no hospital admissions.

A 9 year old boy had reduced need for reliever inhalers (pre: 9, post: 1) and steroids (pre: 3, post: 0) post-DOT. A 14 year old girl had no GP or hospital records since 2014. Her school attendance is 94%.

3 other children collectively showed a reduction in admissions and use of steroids, and improved school attendance, post-DOT.

PATIENT		Hospital Admissions and level of treatment required							Prescriptions from GP		
		Admissions	Days in hospital	Oxygen	Aminophylline IV	Salbutamol IV	Steroid courses	Antibiotics	Blue inhalers	Steroid Courses	Antibiotic Courses
13 year old boy	Pre-DOT	4	8	1	1	1	3	0	14	6	5
	Post-DOT	0							15	5	2
13 year old girl	Pre-DOT	7	9	0	0	0	5	2	13	7	5
	Post-DOT	1	6	1	1	1	1	1	15	0	4
15 year old girl	Pre-DOT	14	34	5	6	3	11	2	13	2	0
	Post-DOT	9	16	1	3	0	4	1	16	1	0

The 13 year old girl's school attendance improved from 69% in 2014-2015, to 93% post-DOT. The 15 year old girl's school attendance improved from 74% in 2014-2015, to 87% in 2015-2016 post-DOT, and is currently 94%.

Conclusion

In these 5 children, DOT improved asthma symptoms, as evidenced by reduced number and severity of admissions, and improved school attendance. This reflects improved quality of life and general health for the children, and suggests DOT can be used on a larger scale for poorly controlled asthma.

A2. Reducing Paediatric asthma admissions and length of stay through patient and family centred care

Hesham Abdalla, Sarah Freeth

Walsall Healthcare NHS Trust

Walsall's Paediatric Asthma Team was set up in 2014 as Walsall Healthcare NHS Trust hospital had admissions due to asthma 20% higher than national average. Annual BTS audits also showed quality of care for these young patients was inadequate. Our aims were to reduce hospital admissions and improve the quality of asthma care for children attending the

hospital.

The team formed a guiding council including a consultant, GP, community nurse and parent representative who prioritised interventions and engaged primary and secondary care in a Quality Improvement programme. 12 months later, the trust has now seen a reduction in beds days for asthma by 23% and average length of stay has reduced by 10% to 1.39 days. In that year, 142 attendances/ admissions for asthma were prevented by interventions from the team including telephone triage and advice, equating to a cost saving of between £20,000 and £40,000 per year.

The team have done this through introduction of an extensive education programme across primary and emergency care and embedding an Asthma Discharge bundle based on NICE Quality Standards. Subsequent re-audit has shown a dramatic improvement in standards of care. For example in 2014 all children presenting to ED received nebulized treatment, irrespective of severity of asthma exacerbation. In 2015 this has now reduced to 20%, as severity is now recorded and assessed. This consolidates the children's self-management plans which were issued to the majority of attendees. All patients now receive prednisolone, if indicated within 1 hour of attendance. We are proud to have manifestly improved quality of care whilst improving staff experience and reducing costs.

A3. Literature Case Review: Vocal Cord Dysfunction- Is it Croup or Asthma?

Amjad Imam, Najma Iqbal & Mukta Jain

Dept. of Paediatrics, George Eliot Hospital, Nuneaton, Warwickshire, CV10 7DJ

Introduction: Vocal cord dysfunction (VCD) or paradoxical vocal fold Movement (PVFM) in older children and adolescents can manifest as intermittent daytime wheezing, dyspnoea, chest or throat tightness and cough. It can be confused with recurrent croup or chronic asthma (1).

Case Review: An 11 year old girl was referred to the paediatric clinic with croup-like symptoms with occasional exercise induced wheeze since infancy. She had frequent attendances to the child assessment unit (CAU) and admission to University Hospital of Coventry and Warwickshire (UHCW), for which she was treated with steroids & bronchodilators. She recently had worsening hoarseness with loss of voice and underwent intensive investigations

including spirometry, barium swallow & laryngo- tracheo-bronchoscopy before a final diagnosis of vocal cord dysfunction (VCD) was made.

Discussion: VCD should be kept as a differential when facing children with unremitting respiratory symptoms particularly symptoms of recurrent croup and wheeze not responding to treatment. Early recognition of VCD will prevent needless interventions, diagnostic studies and medications. VCD often coexist with asthma & croup causing considerable confusion in both diagnosis and treatment in children's presenting with chronic symptoms of dyspnoea, wheeze, cough and throat tightness. Many children with VCD had stresses at home (as in our case), school or were high achieving athletes. The precise role of psychopathology in development of VCD is still under research (2).

Learning Points:

- VCD should be considered as a rare, though important cause of severe & unremitting respiratory symptoms to prevent needless interventions
- There is little evidence available on how to diagnose and manage dysfunctional breathing in children. The evidence from adult studies cannot be extrapolated to our population.

References:

1. Christopher KL, Wood RP, Eckert RC, Blager FB, Raney RA, Souhrada JF, Vocal cord dysfunction presenting as asthma. N Engl J Med 1983; **308**: 1566-1570
2. Selher JC, Staudenmaier H, Koepka JW, Harvey R, Christopher K, Vocal cord dysfunction: the importance of psychologic factors and provocation challenge testing. J Allergy Clin Immunol 1987; **79**: 729-733

A4. Children's Asthma Project- Leeds West Paediatric Asthma Steering Group

Emma Guy on behalf of Leeds West Paediatric Asthma Steering Group

Introduction

The asthma project was established on the background of NHS Leeds West CCG local priority of reducing hospital admissions for children and YP with long term conditions. Asthma was picked as suggestions from local evidence showed variation. A community based paediatric asthma service has been funded by the CCG for 2 years (2015-17).

Aims

- ◆ Improve Quality of life for children and YP with asthma
- ◆ Improve asthma control and self-management
- ◆ Improve asthma diagnosis in accordance with BTS/NICE guidelines

- ◆ Reduce avoidable A+E attendances and unplanned admissions from paediatric patients in Leeds West

Methods

Asthma Steering group established.

A clinical lead for paediatric asthma was employed by the CCG to deliver a community-based paediatric asthma service, supported by 2 practice nurses.

A children's Asthma Nurse Educator was employed to deliver training in schools and early years.

Protocols, and a recording template have been developed to standardise care and reduce variation in primary care.

Preliminary results

1. **Engagement:** 370 people through survey, focus groups and video.
2. **Schools and early years:** 21 schools received 'asthma friendly' status and 13 children's centres received training.
3. School children help coproduce resources to remind children to carry their inhaler with them at all times: <https://www.leedswestccg.nhs.uk/health/campaigns/dont-forget-asthma-inhaler-summer-holidays-never-know-youll-need/>
4. **Primary care** training in 28 practices and risk stratification tool and recording template set up in 34 practices.
5. Increase in use of asthma plans by 38% and 43% improvement in assessing asthma control at asthma review.
6. **Information webpage established:** <http://www.leedswestccg.nhs.uk/health/healthy-living/children/asthma/>

A5. A Survey of Parent experience in Children presenting with Acute Asthma

1. Dr. Aditi Sinha, ST3 Paediatrics, Email: asdiinthia@doctors.org.uk
2. Dr. Naveen Rao, Consultant Paediatrician, Email: naveen.rao@uhsm.nhs.uk
University Hospital South Manchester NHS Foundation Trust, Southmoor Rd, Wythenshawe, Manchester M23 9LT

BACKGROUND

Asthma readmission rates in the North West of England are well above the national average posing a significant burden on A&E departments. Lack of 'Asthma Care Pathways', which include regular follow up, educational interventions, personalised action plans and access to asthma specialist nurses are key to symptom control & self-management. Addressing these may help lower emergency hospital admission rates.

AIMS

- To ascertain reasons patients attend secondary care services (A&E/Paediatrics) at Wythenshawe Hospital during an exacerbation of asthma.
- To gather information surrounding understanding of asthma medications, inhaler use and awareness of the asthma multidisciplinary team.

METHOD

A 'Patient and Parent Questionnaire' was created as part of the paediatric Asthma CQUIN. Between November and January 2014, 100 questionnaires were distributed to patients over 2yrs attending with an acute asthma exacerbation. 32 questionnaires were returned.

RESULTS

Though questionnaire return was poor, we were able to identify some important trends. 50% of patients attended hospital between 12-8pm and 63% of children had been unwell for 12 hrs prior to attendance. The reasons for attending A&E included; GP surgery closed, unaware of out-of-hours service or due to clinical deterioration of the child. 1 in 5 respondents had a recent inhaler technique review and used a preventer inhaler only during an exacerbation. 60% of patients had an action plan. 50% of patients were under asthma follow up with a GP or Paediatrician, with 16% seeing an asthma nurse.

CONCLUSION

Timing of admissions and duration of illness suggest missed opportunities to manage symptoms. Education and self-management plans may have helped avoid these. Knowledge of asthma treatment was poorly answered suggesting asthma education needs to be improved. Only a small number of parents were aware of the asthma multidisciplinary team and therefore we must look at how we can promote awareness and access to these services.

A6. Seasonal pattern and risk factors for exacerbation of childhood asthma

Doxa Kotzia¹, Graham Roberts², Katharine C Pike³

1 Great Ormond Street for Children NHS Foundation Trust

2 University of Southampton

3 UCL Great Ormond Street for Children Institute of Child Health

Background: Clinical trials of asthma management generate cohorts of highly characterised individuals managed according to standardised guideline-based care. Secondary analysis of trial data can identify risk factors for exacerbation.

Objective: To identify risk factors for future asthma exacerbation from amongst demographic factors, atopic status, previous exacerbation history, and indicators of asthma control, severity and treatment adherence.

Methods: 90 children with moderate to severe asthma, aged 5.9 - 16.2 years, participated in a trial, comparing guideline-based asthma management to guideline-based management modified according to fractional exhaled nitric oxide (FeNO). Participants were extensively characterised at baseline and invited to six 2-monthly follow-up visits, where episodes of exacerbations and upper respiratory tract infection (URTI) were reported. Exacerbations requiring oral steroids or hospital admission were classified as moderate/severe. Mean rates of exacerbation per participant enrolled within the trial were calculated for each month. Potential risk factors were related to occurrence of an exacerbation during the 12 month's follow-up using Poisson regression.

Results: Exacerbations demonstrated a seasonal pattern with peaks in May and September; this particularly pronounced when the analysis was limited to exacerbations associated with URTI. Risk of moderate/severe exacerbation was not associated with gender, ethnicity, BMI, age at enrolment or at asthma diagnosis, baseline FeNO or FEV₁. Exacerbation risk during follow-up was associated with exacerbation history during the previous year; 13% increase in risk per course of oral steroid and 2% increase per day of hospital admission. There was a 59% increase in exacerbation risk associated with exposure to smoking. Risk of exacerbation was positively associated with asthma severity and medication adherence and inversely associated with asthma control at baseline.

with asthma control at baseline.

Conclusions: Seasonal factors appear to determine asthma exacerbation frequency. Modifiable risk factors, such as tobacco smoke exposure and asthma control should form the basis of targeted interventions to reduce exacerbations.

A7. Community children's asthma nursing team in Croydon reduce ED attendance rates: a retrospective case-control study.

E Greenhalgh, L White, M Asharia, S Azizi, O Laking, E Iannou, E Holloway
Department of Paediatrics, Croydon University Hospital, Croydon, UK

Background:

Paediatric emergency admissions for asthma in Croydon, UK, were the highest in London in 2014-15 (Healthy London Partnership Baseline Audit). The Croydon Children's Asthma Community Nurses (CACN) team was formed and started work in April 2015. The team offer a home visit and follow-up phone consultation to assist education and management of asthma in patients aged 1-18 years. We hypothesised the ED attendance rate would improve after the CACN team intervention.

Methods:

A retrospective case-control study using electronic patient records. Cases were identified as any child who had been referred to the CACN during the first 6 months of service (01/04/2015 -30/09/2015) over the age of 1 year and who had attended an ED for asthma/whoeze at least once in the 12 months prior to referral. ED attendance rates were compared for the 12 months pre and post-referral.

Controls were identified as those who had attended ED with asthma/whoeze in the year pre-initiation of the CACN service (2014-2015) and ED attendance rates for that year compared to the previous 12 months (2013-2014).

Results:

132 patients (median age of 60.1 months, 68% male) were included in the intervention group with a mean attendance of 2.4 attendances per year improving to 0.99 attendances per patient per year in the 12 months post-referral.

115 control patients (median age of 48 months, 60% male) were identified who showed an attendance rate of 2.0 attendances per patient per year, compared to an attendance rate of 2.4 per patient in the following 12 months.

Student's two tailed t test was applied showing a statistically significant difference in ED attendance rates between the two groups (p value <0.0001).

Conclusion:

The CACN service reduced the ED attendance rate for asthma/wheeze by 59% showing that community asthma nursing is an effective and potentially cost-saving intervention.

B: CYSTIC FIBROSIS

B1. Hearing Surveillance in Children with Cystic Fibrosis

Audit

Dr M Diaconu, Dr Noreen West

Sheffield Children's Hospital

Patients with cystic fibrosis require higher doses and longer antibiotic courses. Aminoglycoside (iv, nebulised) are frequently part of the treatment. Ototoxicity can be irreversible and patients may not have symptoms during treatment. Ototoxicity can be SNHL, initially manifested by diminution of high tone acuity, or vestibular toxicity.

The aim of the audit was to observe the indications for referrals for pure tone audiometry (PTA) and their outcome in children with CF receiving multiple courses of iv/nebulised aminoglycosides (Tobramycin, Amikacin). The audit was conducted retrospectively over a 2 year period (01.01.2011-31.12.2012) and the patients included were aged 5-15 years (DOB 1997-2006) and followed up only by the Sheffield Cystic Fibrosis Team. 33 patients were included, 12 being new referrals (36%) and 2 already under follow up with Audiology. The indications for referrals were: clinical concerns (3 patients), before starting nebulised Tobramycin/before starting Amikacin/ on regular iv aminoglycosides (10 patients), other (2 patients already under follow up in view of family history of hearing loss and known with SNHL respectively and 1 referral because of overdose of Tobramycin). 2 patients had more than one reason for referral. The PTA was conducted at 0.5 to 8 KHz. PTA results were normal for 11 patients (79%) and only 1 patient had SNHL. The patient with SNHL was 15 years old and had had 44 courses of iv Aminoglycosides (Tobramycin/ Amikacin) since birth. In 2011, the PTA showed mild hearing loss at 4 KHz and moderate to severe hearing loss at 6KHz and 8

KHz respectively.

Worldwide there is no clear guidance on how to monitor hearing effectively in children with cystic fibrosis. Early detection of hearing damage is important before it reaches frequencies important for speech discrimination (0.5-8kHz) but children are not routinely tested at frequencies above 8 kHz.

B2. Reducing Pseudomonas rates in Cystic Fibrosis: a quality improvement initiative.

L Archer, C Baker, N Dlamini, V Currie, C Wogan, L Butler, L Hull, S Denniston.

Heart of England NHS Foundation Trust, Birmingham.

Background: In 2013, through a peer review of Cystic Fibrosis services, and the National Port CF Database, high rates of chronic Pseudomonas aeruginosa (PsA) infection were identified in our paediatric clinic (approx. 40 patients). Our clinic had 25% chronic infection compared to 7.5% in the local CF Centre and 8% amongst paediatric patients nationally.

Aim: To reduce the rates of chronic PsA infection in our paediatric clinic to match local regional and national rates.

Methods: We introduced and reinforced a raft of infection control measures

- Isolation of patients in clinic with zero time in waiting area.
- Dedicated scales and height sticks in each room
- Reinforced segregation of clinics into non-PsA and PsA.
- On wards we prioritised en-suite cubicles where possible
- nebuliser cleaning policy at home and on ward.
- Colomycin doses were maximised in patients with recurrent isolations, and TOBI was considered earlier
- Samples were sent for PsA subtyping to ensure no epidemic strains.
- Annual re-audit

Results: Rates of chronic PsA infection fell significantly from 25% (n=10/40) in 2013 to 13.2% (n=5/38) in 2014, 5.1% (n=2/39) in 2015 ($p=0.01$) and 9.3% (n=4/43 patients) in 2016

(Chi-square for linear trend, $p = 0.02$) whilst rates of intermittent PsA infection trended downwards from 22.5% in 2013 to 16% in 2016 ($p=NS$).

Conclusion: We achieved a significant reduction in chronic PsA rates by enforcing strict infection control strategies, and maximising ongoing treatment. Whilst causation cannot be proven, our policy revision and efforts to maintain infection control have been reinforced by the significant reduction in chronic PsA.

C: RESPIRATORY INFECTIONS

C1. **Wear your CAP backwards: Why do doctors deviate from the British Thoracic Society (BTS) guidelines on Paediatric Community Acquired Pneumonia (CAP)?**

Robinson P, Ahmed B, Calton E, Rogerson K, Checketts S, Page A, Kelly J and Barry W.
Paediatric Department, Queen Elizabeth Hospital, Woolwich.

Background: Previous National Audits of the BTS guidelines on Paediatric CAP have consistently highlighted overuse of investigations (chest X-ray (CXR), acute phase reactants (CRP) and blood cultures), broad-spectrum oral antibiotics and intravenous (IV) antibiotics in the management of uncomplicated CAP (Bowen, Thorax, 2013). The reasons for deviations from national guidelines are unclear. We hypothesised that these arise from diagnostic uncertainty by the treating clinician.

Methods: Retrospective analysis of clinical records of 20 children, aged over one, admitted to a paediatric ward with CAP from November 2016 to January 2017, as part of the BTS national audit. Survey of 22 front-line doctors' reported practice, awareness of and rationale for deviating from the BTS CAP guidelines.

Results: 100% of children had a CXR, 85% a CRP, and 80% a blood culture. No children received the recommended first line antibiotic (oral amoxicillin) and 57% of children who could tolerate oral medicines were given IV antibiotics. Reasons for deviation from BTS guidelines included: lack of awareness of the guidelines (36%) and contradictions with local antimicrobial policy. However 55% of clinicians made active decisions to deviate from BTS CAP guidelines. The most commonly cited reasons were the need to exclude differential diagnoses suggested by other

national guidelines, such as NICE "Fever in Under 5's" or "Sepsis Six"(50%), overriding clinical judgment and use of investigations to assess severity.

Discussion: Local findings mirror national audit findings, highlighting over-reliance on investigations and underuse of oral antibiotics in CAP management. However, to our knowledge, this is the first study to investigate why clinicians deviate from BTS guidelines. This is not just due to lack of awareness, but active decisions based on differential diagnoses and severity assessment for a febrile child. Does setting standards based on a priori diagnosis mean we are considering CAP backwards?

C2. **Risk Factors and Mitigation of Influenza Among Indigenous Children in North America, Australia, and New Zealand: A Systematic Review**

Crystal Mcleod

Abstract

Background

Indigenous children of Australia, Canada, United States, and New Zealand experience disproportionately high rates of respiratory infection. A notable example of this disparity is the disease burden created by influenza, which gained global attention during the 2009 pandemic year, and continues to appear in greater incidence among Indigenous children.

Objective

This review considers prominent risk factors and mitigation strategies of influenza among Indigenous children worldwide.

Methods

A systematic search of 6 electronic databases and grey literature from the period of 1997-2017 was completed. Articles selected for inclusion discussed the presence of influenza within Indigenous individuals, communities, and populations. Ancestry searches of articles matching the study criteria was also undertaken to discern seminal research in this topic area.

Results

From review of twenty-three primary research studies, marked risk factors and mitigation

strategies of influenza among Indigenous children were identified. Notable risk factors included age under four years, smoke exposure, presence of a chronic illness, crowded living conditions, previous respiratory infection, and diminished access to vaccination. Successful mitigation of influenza in Indigenous communities included strategies to improve vaccine coverage, provide health education to remote Indigenous communities, and policy change to improve Indigenous peoples' quality of life. Majority of literature discussed in this review was derived from an Australian epidemiological context.

Conclusions

In the past, the impact of influenza upon Indigenous communities has been devastating for both children and their families. Health promotion programming is urgently required to prevent future outbreaks, and halt the evolution of increasingly invasive forms of influenza within this population. Utilizing existing public health infrastructure and collaborating with culturally unique Indigenous groups, preventive action for Indigenous children at significant risk of contracting influenza can be realized.

Funding

None to Declare.

C3. Chest radiographs in paediatric pneumonia: we are getting better

Dr Charlotte Rampton, Dr Natasha Mackinnon, Dr Peter Sebire
Wexham Park Hospital, Slough

Background: Pneumonia is one of the most common causes of death in children worldwide, yet we still struggle to diagnose it clinically. Recent British Thoracic Society (BTS) guidelines state that chest radiographs (CXR) should not routinely be performed for children with community acquired pneumonia. The 2011/12 BTS paediatric pneumonia audit found that CXRs were performed in 90% of children audited.

Aims: To explore the use of CXR as a diagnostic tool for children with pneumonia in a district general hospital.

Methods: A retrospective audit of records for all children, age 1 to 16 years, coded with a diagnosis of pneumonia from the 1st of November 2016 to the 31st of January 2017. We

evaluated: how many patients had a CXR; what the CXR findings were; who ordered the CXR; and whether it changed clinical management.

Results: We audited 151 children with pneumonia, 81 (54%) had a CXR during their admission. 33 (41%) CXRs had lobar changes. The CXR did not change the clinical management of 53 (65%) patients. In 12 cases the clinician thought the CXR was abnormal and started antibiotics, despite the CXR subsequently being reported as normal.

Conclusion: A CXR was organised in only 54% of children diagnosed with pneumonia, a positive outcome reflecting improved guideline adherence. In only 20% of cases the CXR result altered clinical management, but in most it confirmed a clinical diagnosis and suggests we could continue to reduce ordering this investigation.

A CXR remains a simple, relatively harmless diagnostic aid. We continue to order too many, however, this audit shows we are improving.

D: CHRONIC LUNG DISEASE

D.1 East London NICU Bronchopulmonary Dysplasia Home Oxygen Graduates - characteristics and readmissions

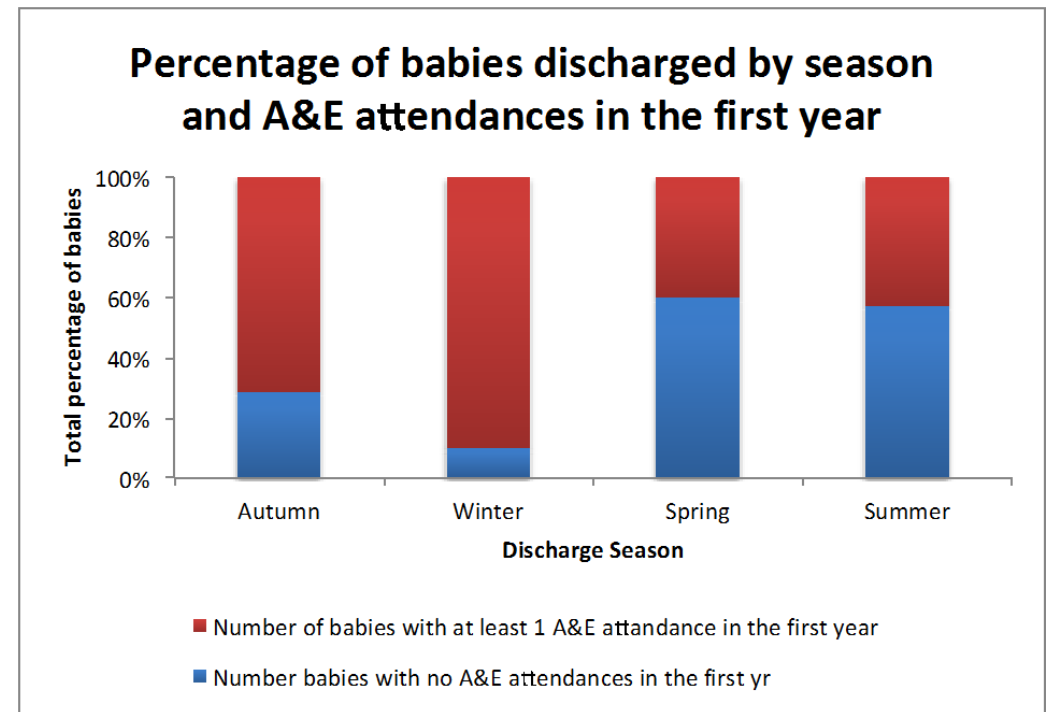
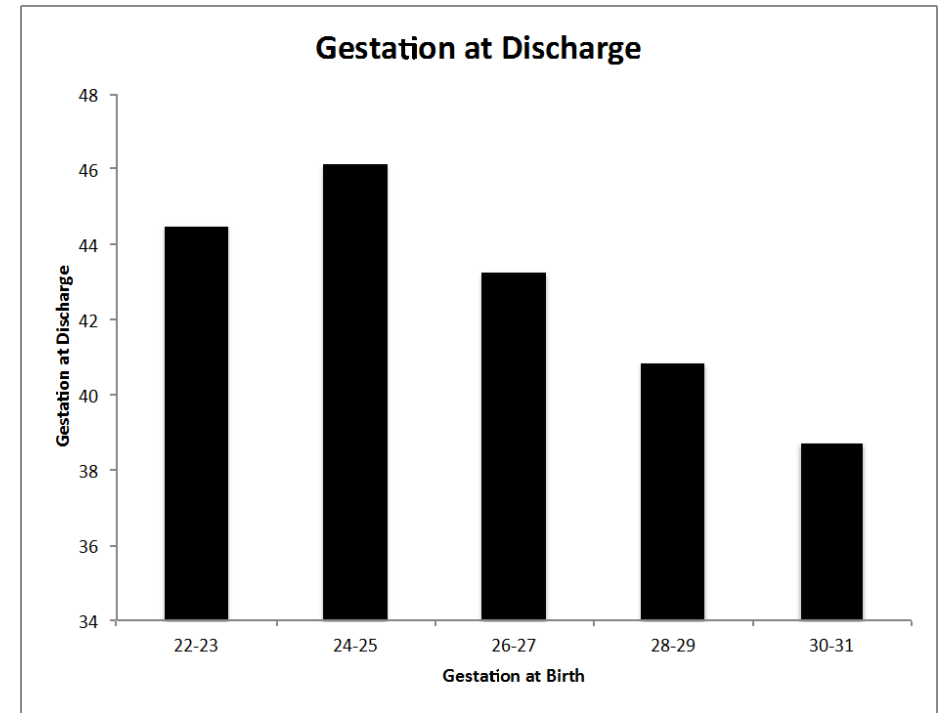
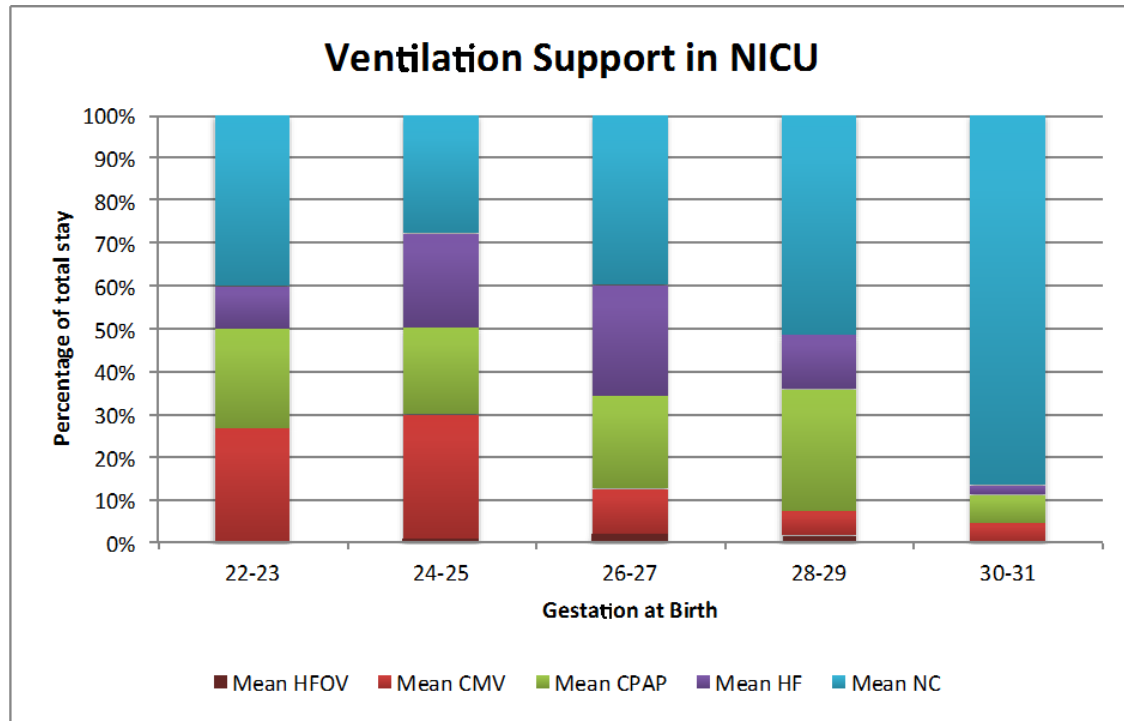
Raymand Pang, Prita Rughani, Cristina Ilea, Ghada Saleh, Michael Hird, Caroline May
Neonatal Unit, Royal London Hospital

Background: Preterm babies with Bronchopulmonary Dysplasia (BPD) are amongst the most vulnerable group of NICU graduates. Home oxygen enables infants to be discharged earlier, allowing time for growth and bonding with family. We carried out an audit looking at the characteristics of the infants' care on the NICU and subsequent readmissions.

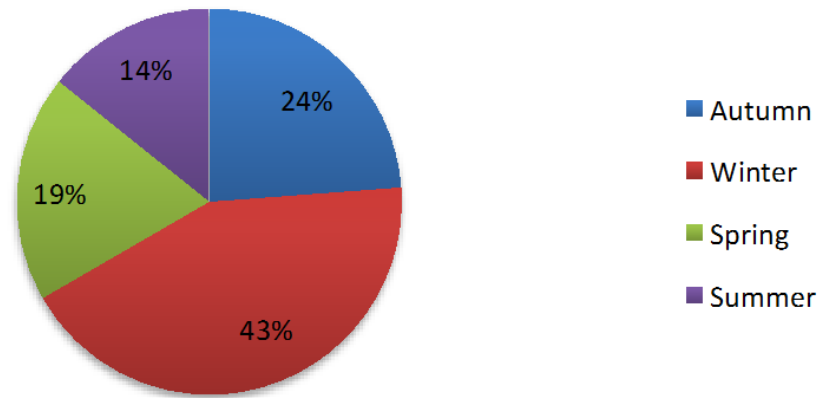
Method: Data was collected retrospectively from BadgerNet and electronic patient records for infants born at the Royal London Hospital between 2011 and 2014 who were discharged on home oxygen and followed up in the chronic lung disease clinic until 2 years of age.

Results: 37 Infants were born between 22 and 30 weeks gestation, weighing on average - 0.68SD of the mean weight corrected for gestation and sex at birth, and were discharged at -1.27SD. We observed a longer duration of ventilatory support in those born at 22-25 weeks. Interestingly time on low flow oxygen remains similar across all gestations. The infants spend on average 114 days on the unit, with our most preterm infants being discharged at 44-46 weeks gestation and more mature infants discharged at 38 weeks corrected gestation. 58% of infants attended A&E during the first year after discharge with 81% of these infants requiring at least 1 admission. Only 6 PICU admissions occurred in the first year, all from babies discharged during the winter months.

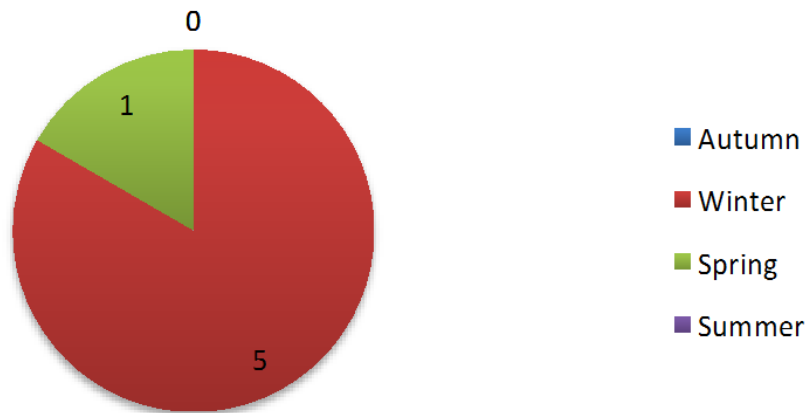
Conclusion: Our preterm infants' weights are below the mean for their gestation at birth and are even smaller at discharge. Our most extremely preterm babies spend longer on the ventilator but their time on low flow oxygen is not significantly different to more mature infants. We must be mindful with babies discharged during the winter months as a large proportion of these babies attend A&E, and require admission.



Babies with atleast 1 A&E Attendance in the first year and time of discharge



ALL PICU ADMISSIONS AND TIME OF DISCHARGE



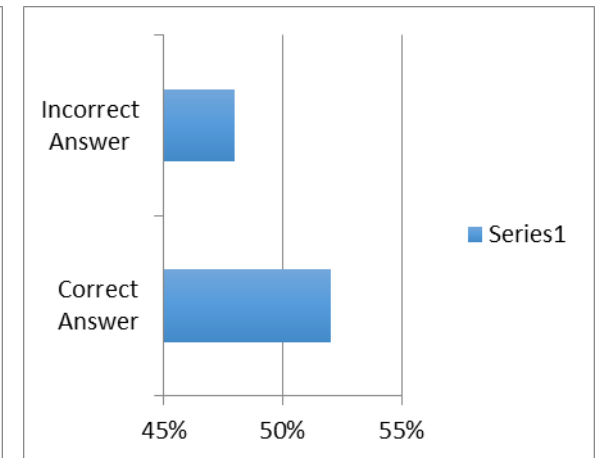
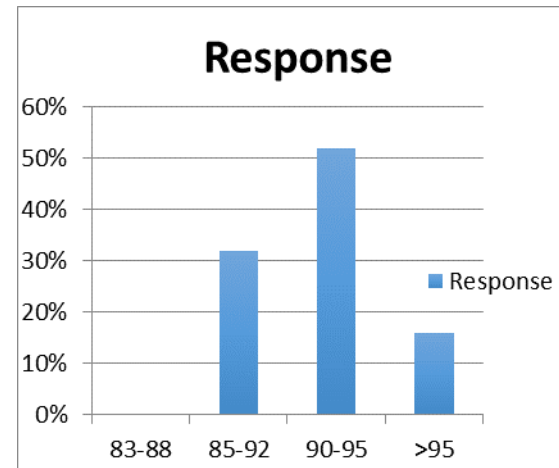
D2. Quality Improvement project for improving awareness for target saturation in preterm babies

S. Ramdeny, A. Jabbal, I. Oyibo, A Sharma

1. **Problem** There was uncertainty about the target saturation for preterm babies among team members. A survey was performed on the neonatal unit to assess the existing awareness on the unit practice of oxygen saturation targets. A questionnaire was circulated. 50 anonymous responses were obtained from nurses and doctors.

1. The target saturation in delivery room at 10 min of age for a 34 weeker

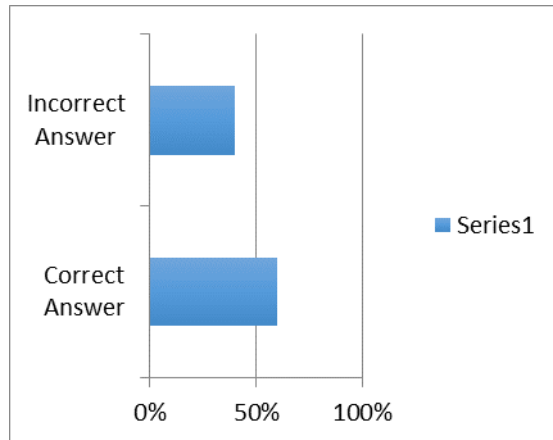
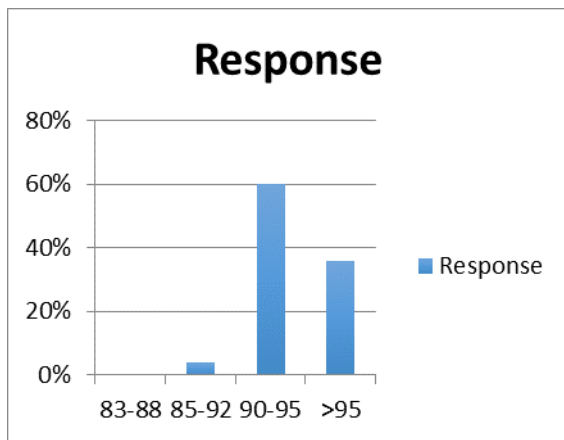
- A 83%-88%
- B 85%-92%
- C 90%-95%
- D >95%



Answer : C

2. The target oxygen saturation for a 34 weeker on day 2 of life

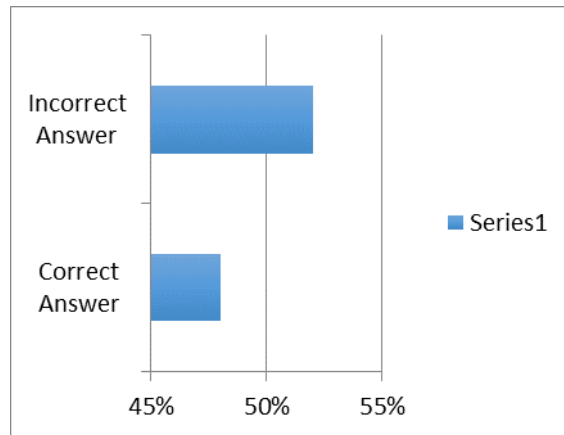
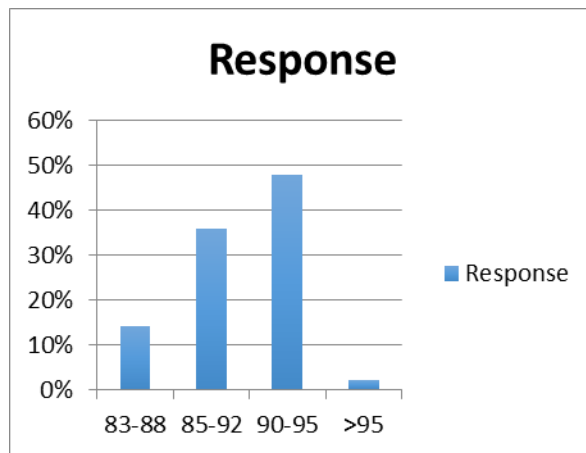
- A 83%-88%
- B 85%-92%
- C 90%-95%
- D >95%



Answer: C

3. The target oxygen saturation in delivery room at 10 min for a baby of 26 weeker

- A 83%-88%
- B 85%-92%
- C 90%-95%
- D >95%

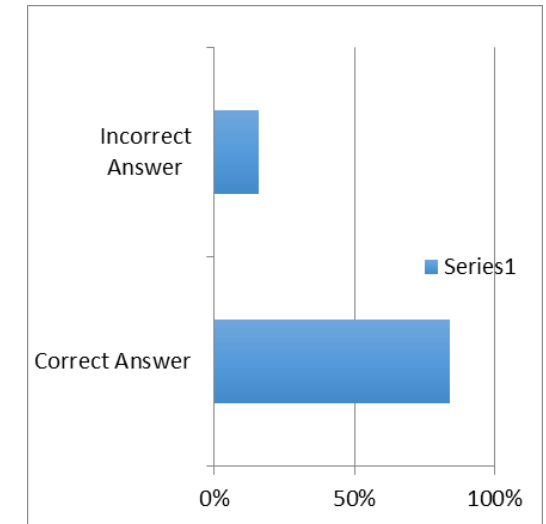
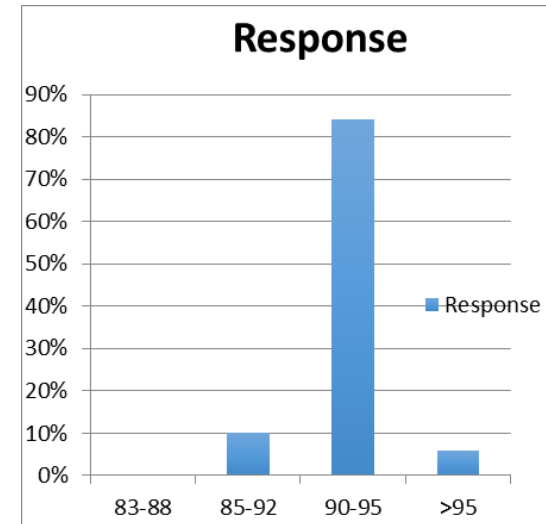


Answer : C

4. The target oxygen saturation for a 26 weeker on day 2 of life

- A 83%-88%
- B 85%-92%

- C 90%-95%
- D >95%

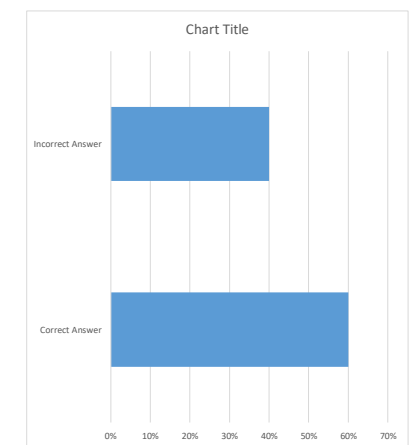
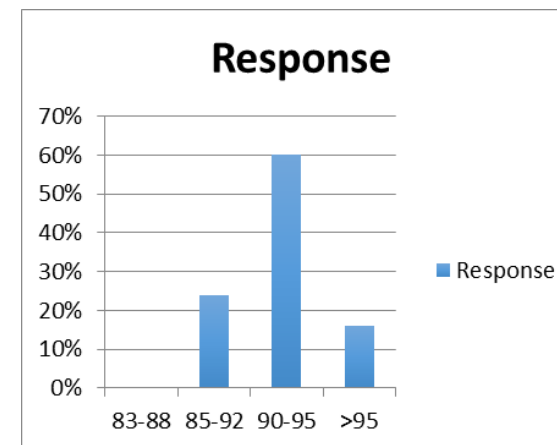


Answer : C

Question 5

The target saturation for an ex-preterm with chronic lung disease on home-oxygen

- A 83%-88%
- B 85%-92%
- C 90%-95%
- D >95%



Answer: C

5. Intervention

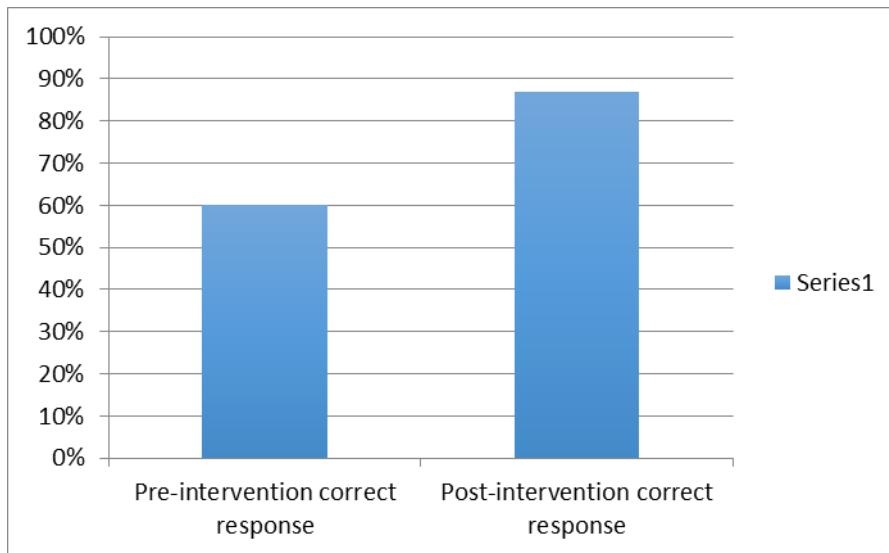
The results of the survey were presented in the local meeting. The target saturation which is displayed on the neonatal unit was updated to the table shown below

Gestation at birth	Air/Oxygen	Target Range	Monitor Alarm Limit
Preterm <37 weeks	Oxygen	91-94	90-95
Term >37 weeks	Oxygen	91-94	90-98
All infants	Air	>91	90-100
PPHN/CCHD	Discuss with Neonatal	And Cardiology	Consultant

6. Measurement of improvement

The survey was repeated. 39 anonymous responses were obtained.

The result showed an improvement from 60% to 87% in the awareness of staff.



Conclusion

Education and training of clinical staff have been shown to be an effective tool for improving and maintenance of knowledge.

References

Oxygen therapy in preterm infants, S. Cherian, I. Morris, J.Evans, S. Kotecha, *Resuscitation of Newborn Infants with 21% or 100% Oxygen: An Updated Systematic Review and Meta-Analysis*; Saugstad et al...Neonatology 2008;94:176–182

E: NON INVASIVE VENTILATION

E1. Investigation of the impact of environmental changes and different breathing systems on oropharyngeal temperature and humidity delivered by heated humidified high-flow nasal cannula (HFNC) therapy

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¹Department of Paediatric Respiratory Medicine, Great North Children's Hospital, Newcastle upon Tyne, UK.

²Department of Neonatal Medicine, Royal Victoria Infirmary, Newcastle upon Tyne, UK.

³Institute of Cellular Medicine, Newcastle University, UK.

⁴The Royal Women's Hospital, Melbourne, Victoria, Australia.

Objective:

We investigated how changes in external environment or different types of breathing system affect oropharyngeal temperature (OT), humidity and rainout volume (RV) during HFNC therapy in a 3-D airway model.

Method:

OT and relative humidity (RH) were measured using a thermohygrometer in incubator (IS) and open cot settings (OCS). Humidification and heating were delivered by Fisher and Paykel MR850 heated humidifier via two flow drivers (Air-Oxygen blender & Acutronic). Flow rates were 1, 4 and 8l/min. Two types of humidification chambers and breathing circuit systems (Optiflow & AquaVENT-NEO) were compared with low flow oxygen (LFO₂ - 0.5l/min). Absolute humidity (AH) was calculated. RVs in each breathing circuit pre and post commencing HFNC were calculated by the difference in weight (g).

Results:

LFO₂ resulted in lower OTs (23.7°C vs. 28.1°C), RHs (9% vs. 32%) and AHs (1.6g/m³ vs. 7.6g/m³) compared with HFNC with OCS worse than IS (Table 1 Details Results). Temperature, AH and RVs were lower in OCS compared to IS (Table 1 Details Results).

Flow Driver	Breathing circuit system	Flow Rate	Incubator (Temperature set at 34°C, Humidity at 60%)				Open Cot (Temperature set at 34°C)			
			Median Temp, °c (Range)	Median RH, % (Range)	Median AH, g/m ³ (Range)	Rain-out Volume(g)	Median Temp, °c (Range)	Median RH, % (Range)	Median AH, g/m ³ (Range)	Rain-out Volume (g)
LF O ₂	Salter	0.5	28.1	32.0	7.6	n/a	23.7	9.0	1.6	n/a
Air - Oxygen Blender	Optiflow	1	33.3 (32.5-33.5)	99.9 (98.6-99.9)	33.2 (31.2-33.6)	2.5	28.2 (27.6-28.6)	99.9 (99.9)	24.5 (23.6-25.1)	1
		4	34.5 (34.4-34.5)	99.9 (99.5-99.9)	35.6 (35.2-35.6)	1.4	31 (30.9-31.3)	99.9 (99.9)	29 (28.8-29.5)	1.1
		8	35.2 (33.6-35.2)	94.7 (88.9-99.9)	35 (29.9-37.1)	1.55	33.5 (29.3-33.6)	99.9 (99.9)	33.6 (26.1-33.8)	0.6
Air - Oxygen Blender	AquaVENT NEO	1	33.7 (33.6-34.1)	99.8 (98.6-99.9)	36 (33.3-34.8)	2.3	29.9 (29.3-29.9)	99.9 (99.9)	27.1 (26.1-27.1)	0.15
		4	34.7 (34.7-35.2)	96 (92-99.9)	34.5 (33-37.1)	2.15	33 (32.8-33.1)	99.9 (99.9)	32.6 (32.2-32.8)	1.05
		8	35 (33.6-35)	88.5 (86-89.5)	32.3 (28.8-32.6)	1.95	33.8 (28.2-34)	99.9 (99.9)	34.2 (24.5-34.6)	0.95
Acu tro nic	Optiflow	1	33.8 (33.5-33.9)	94.2 (92.6-97)	32.1 (31-33.3)	0.85	28.4 (28.2-28.4)	99.9 (99.9)	24.8 (24.5-24.8)	0.65
		4	33.7 (33.5-34.1)	99.9 (98-99.9)	34 (32.9-34.8)	1.1	30.8 (30.3-31.3)	99.9 (99.9)	28.6 (27.8-29.5)	0.75
		8	35.1 (34.4-35.3)	99.9 (99.9)	36.9 (35.4-37.3)	1.1	33.7 (28.6-33.9)	99.9 (99.9)	34 (25.1-34.4)	0.95
Acu tro nic	AquaVENT NEO	1	34.7 (34.4-34.9)	99.9 (99.9)	36 (35.4-36.4)	0.65	28.6 (28.6-28.7)	99.9 (99.9)	25.1 (25.1-25.2)	0.65
		4	34.9 (34.8-34.9)	99.9 (99.9)	36.4 (36.2-36.4)	0.95	33.2 (33.1-33.3)	99.9 (99.9)	33 (32.8-33.2)	0.65
		8	35.3 (35-35.5)	94.9 (94.3-95)	34.5 (34.3-35.8)	1.8	34.3 (34.2-34.4)	99.9 (99.9)	35.2 (35-35.4)	0.95

Flow Driver	Breathing circuit system	Flow Rate	Incubator (Temperature set at 34°C, Humidity at 60%)				Open Cot (Temperature set at 34°C)			
			Median Temp, °c (Range)	Median RH, % (Range)	Median AH, g/m ³ (Range)	Rain-out Volume (g)	Median Temp, °c (Range)	Median RH, % (Range)	Median AH, g/m ³ (Range)	Rain-out Volume (g)
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Air - Oxygen Blender	Optiflow	1	33.3 (32.5-33.5)	99.9 (98.6-99.9)	33.2 (31.2-33.6)	2.5	28.2 (27.6-28.6)	99.9 (99.9)	24.5 (23.6-25.1)	1
		4	34.5 (34.4-34.5)	99.9 (99.5-99.9)	35.6 (35.2-35.6)	1.4	31 (30.9-31.3)	99.9 (99.9)	29 (28.8-29.5)	1.1
		8	35.2 (33.6-35.2)	94.7 (88.9-99.9)	35 (29.9-37.1)	1.55	33.5 (29.3-33.6)	99.9 (99.9)	33.6 (26.1-33.8)	0.6
Air - Oxygen Blender	AquaVENT NEO	1	33.7 (33.6-34.1)	99.8 (98.6-99.9)	36 (33.3-34.8)	2.3	29.9 (29.3-29.9)	99.9 (99.9)	27.1 (26.1-27.1)	0.15
		4	34.7 (34.7-35.2)	96 (92-99.9)	34.5 (33-37.1)	2.15	33 (32.8-33.1)	99.9 (99.9)	32.6 (32.2-32.8)	1.05
		8	35 (33.6-35)	88.5 (86-89.5)	32.3 (28.8-32.6)	1.95	33.8 (28.2-34)	99.9 (99.9)	34.2 (24.5-34.6)	0.95
Acu tro nic	Optiflow	1	33.8 (33.5-33.9)	94.2 (92.6-97)	32.1 (31-33.3)	0.85	28.4 (28.2-28.4)	99.9 (99.9)	24.8 (24.5-24.8)	0.65
		4	33.7 (33.5-34.1)	99.9 (98-99.9)	34 (32.9-34.8)	1.1	30.8 (30.3-31.3)	99.9 (99.9)	28.6 (27.8-29.5)	0.75
		8	35.1 (34.4-35.3)	99.9 (99.9)	36.9 (35.4-37.3)	1.1	33.7 (28.6-33.9)	99.9 (99.9)	34 (25.1-34.4)	0.95
Acu tro nic	AquaVENT NEO	1	34.7 (34.4-34.9)	99.9 (99.9)	36 (35.4-36.4)	0.65	28.6 (28.6-28.7)	99.9 (99.9)	25.1 (25.1-25.2)	0.65
		4	34.9 (34.8-34.9)	99.9 (99.9)	36.4 (36.2-36.4)	0.95	33.2 (33.1-33.3)	99.9 (99.9)	33 (32.8-33.2)	0.65
		8	35.3 (35-35.5)	94.9 (94.3-95)	34.5 (34.3-35.8)	1.8	34.3 (34.2-34.4)	99.9 (99.9)	35.2 (35-35.4)	0.95

Increasing HFNC flow rate from 1 to 8l/min increased temperature in all situations. All devices regardless of breathing circuit combination delivered RHs >85%. Different breathing circuits produced different RHs, AHs and RVs. The Optiflow achieved lower RVs, better RHs and AHs than AquaVENTs at higher flow rates of 8l/min during IS. The AquaVENTs achieved better

temperature than Optiflow during OCS with both achieving equal RHs.

Air-Oxygen blender flow driver was better at delivering RHs at flow rates of 1l/min than Acutronic (99.9% vs. 94.2%) and this was reversed at flow rates of 8l/min (94.7% vs 99.9%) when using the same circuit during IS.

Conclusion:

In our model, ISO recommendations for humidification were not always reached in OCS at low flow rates.

Clinicians should be aware that different circuit/flow driver combinations may generate different levels of humidification and OTs.

Flow Driver	Breathing circuit system	Flow Rate	Incubator (Temperature set at 34°C, Humidity at 60%)				Open Cot (Temperature set at 34°C)			
			Median Temp, °C (Range)	Median RH, % (Range)	Median AH, g/m ³ (Range)	Rain-out Volume (g)	Median Temp, °C (Range)	Median RH, % (Range)	Median AH, g/m ³ (Range)	Rain-out Volume (g)
LF O ₂	Salter	0.5	28.1	32.0	7.6	n/a	23.7	9.0	1.6	n/a
Air - Oxygen Blender	Optiflow	1	33.3 (32.5-33.5)	99.9 (98.6-99.9)	33.2 (31.2-33.6)	2.5	28.2 (27.6-28.6)	99.9 (99.9-99.9)	24.5 (23.6-25.1)	1
		4	34.5 (34.4-34.5)	99.9 (99.5-99.9)	35.6 (35.2-35.6)	1.4	31 (30.9-31.3)	99.9 (99.9-99.9)	29 (28.8-29.5)	1.1
		8	35.2 (33.6-35.2)	94.7 (88.9-99.9)	35 (29.9-37.1)	1.55	33.5 (29.3-33.6)	99.9 (99.9-99.9)	33.6 (26.1-33.8)	0.6
Air - Oxygen Blender	AquaVE NT NEO	1	33.7 (33.6-34.1)	99.8 (98.6-99.9)	36 (33.3-34.8)	2.3	29.9 (29.3-29.9)	99.9 (99.9-99.9)	27.1 (26.1-27.1)	0.15
		4	34.7 (34.7-35.2)	96 (92-99.9)	34.5 (33-37.1)	2.15	33 (32.8-33.1)	99.9 (99.9-99.9)	32.6 (32.2-32.8)	1.05
		8	35 (33.6-35)	88.5 (86-89.5)	32.3 (28.8-32.6)	1.95	33.8 (28.2-34)	99.9 (99.9-99.9)	34.2 (24.5-34.6)	0.95
Acutronic	Optiflow	1	33.8 (33.5-33.9)	94.2 (92.6-97)	32.1 (31-33.3)	0.85	28.4 (28.2-28.4)	99.9 (99.9-99.9)	24.8 (24.5-24.8)	0.65
		4	33.7 (33.5-34.1)	99.9 (98-99.9)	34 (32.9-34.8)	1.1	30.8 (30.3-31.3)	99.9 (99.9-99.9)	28.6 (27.8-29.5)	0.75
		8	35.1 (34.4-35.3)	99.9 (99.9-99.9)	36.9 (35.4-37.3)	1.1	33.7 (28.6-33.9)	99.9 (99.9-99.9)	34 (25.1-34.4)	0.95
Acutronic	AquaVE NT NEO	1	34.7 (34.4-34.9)	99.9 (99.9-99.9)	36 (35.4-36.4)	0.65	28.6 (28.6-28.7)	99.9 (99.9-99.9)	25.1 (25.1-25.2)	0.65
		4	34.9 (34.8-34.9)	99.9 (99.9-99.9)	36.4 (36.2-36.4)	0.95	33.2 (33.1-33.3)	99.9 (99.9-99.9)	33 (32.8-33.2)	0.65
		8	35.3 (35-35.5)	94.9 (94.3-95)	34.5 (34.3-35.8)	1.8	34.3 (34.2-34.4)	99.9 (99.9-99.9)	35.2 (35-35.4)	0.95

E2. CPAP Hood: Experience of the only UK centre with regular use

CPAP Hood: Experience of the only UK centre with regular use
S.Lampariello, S.Pierce, C.Ronan

Paediatric Critical Care Unit, Barts and the London Children's Hospital

Background and Aims

- CPAP is a well-established therapy for acute respiratory failure. This is normally delivered by oro/nasal mask, with leaks, pressure areas and poor compliance as complications. There is limited information about delivery of CPAP via a hood in the UK.
- The effects of the CPAP hood on oxygenation have been shown to improve PaO₂/FiO₂ ratios (Chidini, 2010).
- In our centre, patients are sometimes started on CPAP hood even when in type 2 respiratory failure.
- The effect of CPAP hood therapy on PaCO₂ has not been previously investigated in paediatrics and appears to be non-significant in adults (Luo, 2016).

Method

- All UK NHS Paediatric Critical Care Units (PCCUs) (except NI) were surveyed to establish use of the hood.
- Patients admitted to PCCU receiving CPAP hood therapy between February 2015 and February 2016 were identified retrospectively. Data were collected using a set proforma.

Results

- Of 29 PCCUs, none used the CPAP hood regularly. Four had previously used it occasionally, with 1 still using it occasionally.
- 57 patients received CPAP via hood and 28 notes were accessible.
 - No adverse effects were documented
 - No sedation was required
 - 10% of patients had previously failed to tolerate another interface
 - 14% required invasive ventilation

	Mean (range)
Age (yrs)	2.49 (0.3-11)
Weight (kg)	13.88 (4.4-43)
PEEP (cmH ₂ O)	5-10
Duration (hrs)	48.6 (4-360)

- A non-significant mean reduction of 3.1% in PaCO₂ was seen at the first post-CPAP gas, (change in absolute values of +1.48KPa to -3.87KPa). In hypercapnic patients, PaCO₂ reduced by 11%. A significant correlation was seen between PaCO₂ and time on CPAP, with reduced PaCO₂ as duration increased (r = -0.44).



Conclusions

- This study continues to demonstrate that CPAP hood is a safe, well-tolerated paediatric interface and provides provisional data on reduction of PaCO₂.

F: CASE STUDIES

F1. Case Report: Survival at 31 weeks Gestation with Postnatally Diagnosed Right-Sided Congenital Diaphragmatic Hernia.

- 1 Dr Stylianie Tsilika, Paediatric ST6, Nottingham University Hospitals, Nottingham, United Kingdom
2. Dr Salma Ali, Paediatric ST5, Nottingham University Hospitals, Nottingham, United Kingdom

Background: Congenital diaphragmatic hernia is a rare defect, diagnosed antenatally or postnatally, in both preterm and term babies. Survival is dependent on the extent of respiratory failure, degree of pulmonary hypoplasia, presence of persistent pulmonary hypertension and any associated congenital anomalies. Antenatal diagnosis enables preparation for delivery and controlled management of resuscitation including intubation, ideally before the first breath, followed by gentle ventilation. Antenatal screening detects CDH in >70% of cases¹ and three-quarters of live-born infants with CDH will be born at term. We report our experience with an infant who falls within the other <25% having been born *premature* with a right sided congenital diaphragmatic hernia that was diagnosed postnatally.

Case: The neonatal team attended the birth of a male infant born at 31+5 weeks gestation, birth weight 1.9Kg, with a background of polyhydramnios and placental abruption. He was born in poor condition, and required intubation and ventilation at delivery. Chest X-ray demonstrated an unexpected right sided diaphragmatic hernia. He required prolonged ventilatory support, including high frequency oscillatory ventilation alongside nitric oxide, and inotropes to manage his persistent pulmonary hypertension. The diaphragmatic hernia was repaired on day 15 of life. He was ventilator dependent until day 30 and following extubation has remained on non-invasive support at present.

Discussion: Using prospectively collected data Tsao et al (2010) showed preterm infants were significantly less likely to undergo operative repair of their diaphragmatic hernia compared to term babies.² Amongst the preterm cohort (> 31 weeks) >40% survive following CDH repair although survival has been shown to be significantly lower compared to term babies.² Despite his fragile neonatal course our preterm baby with congenital diaphragmatic hernia underwent repair and has survived to term. Future assessment of neurodevelopmental outcome will be

important in terms of assessing long-term impact and morbidity.

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F2. An Unusual Complication of Mycoplasma Infection

Dr Louise Selby¹, Dr Catriona Middleton¹, Dr Theofilos Polychronakis²
¹Addenbrookes Hospital, Cambridge, ²Royal Brompton Hospital, London.

We present the case of an 8 year old boy with an unusual complication of mycoplasma pneumoniae. He presented to his local hospital with cough, coryza and fever for 9 days. He developed significant respiratory distress and commenced intravenous antibiotics, but required escalation of respiratory support to optiflow, CPAP, then required intubation, ventilation and further escalation to high frequency oscillation.

Initial chest x-ray showed dense consolidation of the right lung, which progressed to a right sided white out.

He was treated with intravenous antibiotics with atypical cover. Pleural tap was negative for bacterial growth and nasopharyngeal aspirate for extended respiratory viruses was negative but serology was positive for mycoplasma pneumoniae.

He developed a swollen right leg; Doppler ultrasound showed thrombus from the right external iliac to the popliteal vein. He commenced anti-coagulation and his case was discussed with Great Ormond Street. He had a CTPA performed showing extensive bilateral pulmonary emboli, consolidation and infarction with hepatomegaly.

After three weeks he was extubated to CPAP and remained tachypnoeic but not hypoxic. An IVC filter and clot extraction were discussed because of sub-therapeutic anti Xa levels, however it was felt the risks outweighed the benefits. He remained on bedrest until his factor

Xa was therapeutic due to risk of further emboli. Repeat CTPA was performed in view of persistent temperatures and to reassess the clot burden and right lung. This showed consolidation and cavitating infarctions with an enlarging effusion.

Conservative management with intravenous antibiotics was continued; two weeks later oral antibiotics and warfarin introduced. His pulmonary pressures normalised on echocardiogram and he continued to make good progress.

There is one case of pulmonary infarction secondary to mycoplasma infection in the literature. We present a complicated course and interesting images requiring multi-disciplinary and multi-site discussions eventually achieving excellent outcomes for the child.

F3. Case Presentation: Dysfunctional Breathing in an Adolescent with Difficult to Control Asthma.

Iqbal N, Gautier J. Department of Paediatrics, George Eliot Hospital, Nuneaton CV10 1DJ.

Introduction

Dysfunctional breathing (DB) is a spectrum of respiratory and non-respiratory symptoms arising from 'an alteration in the normal biomechanical pattern of breathing'⁽¹⁾. Diagnostic uncertainty arises because of the significant overlap in symptoms with other chronic respiratory conditions. Primary care studies have suggested it to be a common co-morbidity in the adult asthmatic population⁽²⁾.

The diagnosis is much less readily identified in the paediatric asthma population, despite SIGN/BTS guidelines⁽³⁾ which advise the consideration of DB in adolescents with difficult to control asthma.

Buteyko, and other such breathing techniques, have been suggested as a reasonable adjunct to treatment in asthma where there is DB⁽⁴⁾. The benefits cannot be understated; with a significant reduction in morbidity.

Case Study

Our patient was a fourteen year old Caucasian female, with increasingly difficult to control asthma. By age five, she was on alternate day steroids, but with little improvement. A difficult asthma assessment at seven years of age, revealed little subjective evidence of asthma, high compliance with medications and pre-bronchiectatic changes on CT scan. Antibiotics were considered as part of her therapeutic intervention, with an initial improvement in her symptoms. This was short-lived, and by eleven, she was having up to twice monthly attendances to the Children's Assessment Unit. In October 2015 Omalizumab was initiated, with no obvious immediate response.

Buteyko technique was taught in December 2015, and there was an immediate reduction in perceived symptoms; with only one acute exacerbation requiring steroids since then. She has required further antibiotics course though.

Learning Points

Correct diagnosis of DB can hugely reduce the pharmaceutical load and morbidity in paediatric asthma.

DB needs better evaluation and early consideration in difficult paediatric asthma.

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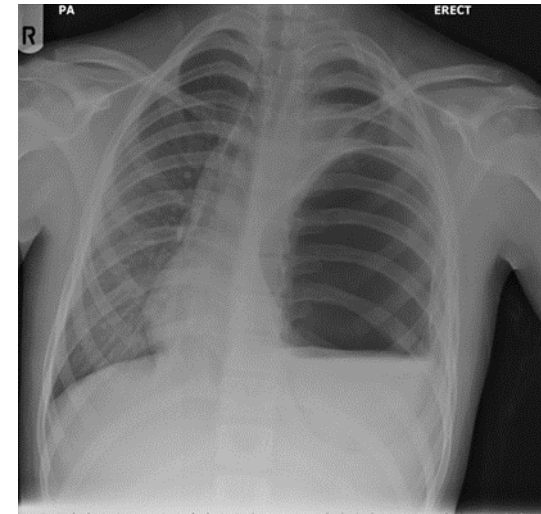
F4. An unusual cause of vomiting and chest tightness.

Dr Charlotte Rampton¹, Miss Kokila Lakhoo², Dr Peter Sebire¹

¹Wexham Park Hospital, Slough and ²John Radcliffe Hospital, Oxford

Case Presentation:

A 13-year-old boy presented to a district general hospital with a 48-hour history of abdominal pain, vomiting and diarrhoea. His examination and blood tests were normal on admission. He was given anti-emetics and IV fluids, but continued to vomit. On day 4 he suffered from acute shortness-of-breath. On examination he had reduced air entry to his mid-zone on the left with dullness to percussion, his trachea was central and his observations were normal. His CXR is below.



What is the cause of this patient's symptoms and CXR findings?

What is your management plan?

Ongoing case management:

At the tertiary centre he was suspected of having a diaphragmatic hernia with compromised bowel and was taken to theatre after challenging resuscitation. At laparotomy a hiatus hernia was noted with necrotic lower oesophagus and proximal stomach. He required staged multiple interventions and spent 4 weeks in PICU/PHDU due to: pleural effusions, pneumothoraces, sepsis and abdominal collections. At 1-month outpatient follow-up he had regained 75% of his weight loss and was able to tolerate a normal diet.

Discussion:

A hiatus hernia is a protrusion of an organ through the oesophageal hiatus, it can be congenital or acquired. Hiatus hernia are present in 0.1% of the paediatric population. They are difficult to diagnose clinically due to very non-specific symptoms: vomiting, failure-to-thrive, anaemia, and dysphagia. Differential diagnosis includes: pneumothorax, diaphragmatic hernia, lung abscess, congenital lung cysts, hydatid disease, contained perforations, and epiphrenic diverticulum. Diagnosis is often suspected when herniated bowel is noted on plain chest radiograph. Complications are prevalent in congenital hernias, therefore elective surgical repair is needed at diagnosis.

Conclusion:

Awareness of hiatus herniae is important for paediatric respiratory specialists because examination and CXR findings can mimic other pathologies.

F5. Challenges of managing bronchiectasis in a low resource setting

Caroline Harris, ST4 Paediatrics, Northern Deanery

Background

Bronchiectasis is managed by an extensive multi-disciplinary team in high resource settings. In the developing world the burden of disease is significantly higher despite treatment options being limited¹. I describe a recent case of a paediatric patient with bronchiectasis from Queen Elizabeth Central Hospital, Malawi.

Clinical case

KL presented at 7 months old with shortness of breath, cough and fever. He improved with antibiotics, but continued to have frequent lower respiratory tract infections on a monthly basis. By 11 months of age he was having a daily productive cough with associated shortness of breath. He was HIV negative.

Chest X-ray showed bilateral streaky perihilar and upper lobe bronchiectatic changes. A CT scan showed bilateral dilated and thickened bronchi. Immunology and sweat testing was unavailable to determine the underlying cause of bronchiectasis.

There was no medium for respiratory culture. He was placed on alternating courses of antibiotics for 1 month at a time – Co-amoxiclav, Azithromycin, Co-trimoxazole and Ciprofloxacin. During acute exacerbations he was treated with Salbutamol nebulisers, Prednisolone and IV Ceftriaxone. Parents were shown how to perform daily chest physiotherapy. He was given “Chiponde” to eat, a high fat “peanut butter” used for children with malnutrition.

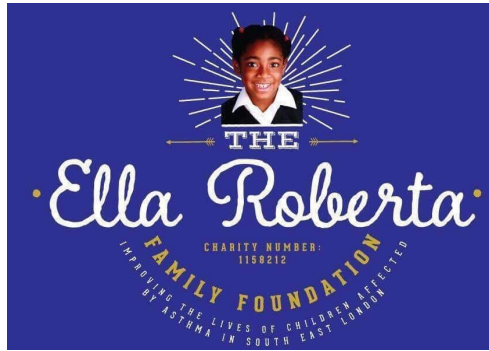
By the time he was 23 months pulmonary hypertension led to right sided heart failure. Furosemide and Spironolactone were commenced. Oxygen saturations became lower and exercise tolerance negligible. A palliative care team were involved and he sadly passed away age 2 years 3 months.

Discussion

Epidemiological global data of bronchiectasis is limited. There are few guidelines in the developing world. Use of broad spectrum antibiotics, vaccination programmes and HIV prevention strategies are thought to be making some impact on the burden of this disease.

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The Ella Roberta Family Foundation

The Ella Roberta Family Foundation is delighted to support the Asthma Prize for the best abstract.

After losing her daughter, Ella, to asthma, Rosamund Kissi-Debrah set up the foundation in her daughter's name. One of the Foundation's objectives is to promote all research necessary to find the cause, cure and prevention of asthma in children and to aid and to improve the condition of those suffering from it and publish the results of such research for the benefit of the public.

The Ella Roberta Foundation works to promote education about the causes and prevention of asthma, specifically in Lewisham and South East London. We work in local schools and at community events educating people of all ages about the importance of understanding and controlling asthma. We also provide medical and play equipment for Lewisham Hospital children's ward. We are passionate about making children and their carers understand how vital continued asthma care is for sufferers. We create clean air strategies and pollution level monitoring projects through work with Friends of the Earth and local community groups and the council.

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