

## Includes Conference 2021 Programme "Training in a Virtual World"

Barts Health QR code for Recording Training Attendance

NHS Injectable Medicines Guide (MEDUSA)

Introduction to Vibrating Mesh Technology

Medical Device Training and the New Normal



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NAMDET would like to thank all sponsors and contributors for their ongoing support, which enables this important MDET journal to be produced and shared for free.

## Words from the Editor...

WELCOME, to the November edition of MDET produced as a joint programme for our first ever 'virtual' conference. Our colleagues at Olympus have supported NAMDET by offering their virtual training hub (Continuum) for this year's event. We extend our gratitude to their team for hosting and helping put on our 2021 event. As you can see from the content, the NAMDET conference team have pulled together a fantastic programme, with speakers from industry and the NHS. Ongoing support from the MHRA and NHSE/I also draws our attention to patient safety issues, which remains at the heart of all we do.

2021 has been an exceptional year, and the pandemic and other challenges continue to place enormous pressure on our services. Still, we continue to provide high levels of healthcare to all our patients. We would not be able to hold an event this year without our speakers' contributions. They will be sharing their own experiences and expertise, and we thank them for taking time out of their busy schedules.

Our industry partners will also share how COVID restrictions affected their work and how a *new way of working* has helped them fast-track new initiatives and learning for all. Regional chairs will share how they looked at 'virtual' training and which methods may be helpful for future medical device education and training. During the conference, all delegates will get a chance to vote on membership fees and look at a few burning questions around competencies and training, helping to set challenges for 2022 and beyond.

I would like to personally thank everyone for their ongoing support in NAMDET and those joining the conference too. Please make every effort to attend each presentation, and engage throughout the Q&A opportunities at the end of the morning and afternoon sessions.

MDET journal is free, so please feel free to pass on the link to colleagues in the NHS, industry, training & education and those working in medical device risk and management.

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**Paul T. Lee:**  
BA (Hons) RSci, MIPEM  
Chairman NAMDET, MDET Editor



**Jordan Lee: MA, BA (Hons)**  
Managing Editor MDET



# Meet the Directors of NAMDET

## The Current Directors of NAMDET



**Paul Lee BA (Hons) Cert. Ed, RSci, RCT, MIPEM**

**Chair of NAMDET, Lead for MDET and website development**

Paul worked for 17 years as a medical electronics engineer and Deputy EBME Manager in South Wales, and in 2003 he was appointed as the lead for medical device training in Swansea. He currently works in Morriston Hospital (Swansea Bay University Health Board), leading the medical device training team in one of the largest health boards in Wales.

Paul is currently Chair of the NAMDET board and helps develop the website, including regular posts, news updates, alerts and dealing with members queries. He is also a consultant editor of the MDET journal, helps write the articles, and produces the NAMDET newsletter for all members.



**John Byrne; Director of Finance, Regulatory Affairs and Quality Assurance**

John has worked within medical devices management and maintenance for over 20 years. He trained as a medical and dental technician at the School of Electronic Engineering, whilst serving 22 years in the Armed Forces. After John left the forces, he began setting up and specialising in Medical Devices Training at many Trusts as well as completing high level audits of medical devices management at NHS Trusts, in the UK and abroad.

John helped to set up and was the chairperson for the London and South East Region of the National Association of Medical Devices Educators and Trainers (NAMDET), from April 2011 to February 2015. He is a Director at NAMDET and provides advice and assistance to Trusts on Medical Devices training.



**Jean Hutfield, Specialist Advisor (Primary Care)**

Jean has an extensive career within the NHS spanning 38 years: 35 years in Community Services and currently part of the management team as Compliance, Risk & Contracts Manager within Alder Hey Children's NHS Foundation Trust.

As a NAMDET Board Member, she is the Director of New Business Development – with a keen affinity to developing working partnerships to progress the integration and development of innovation and training throughout the Healthcare sector, she aspires to bridge the Acute and Community sectors with the sharing of all 'medical device training and education' initiatives emanating from NAMDET.



**Rose Parker; Membership and National Liaison**

In 2008 Rose established the 'Northern Best Practice Medical Devices Group' which morphed into NAMDET North West Group in 2011. This group, Rose has chaired the group for the first five years and now meets quarterly.

Rose is a Registered Nurse who trained in Liverpool before completing her Post Graduate studies in Midwifery, Ear Nose and Throat Surgery, Head and Neck Surgery, Neurosurgery and Intensive Care. Rose now works at St Helens and Knowsley Teaching Hospitals NHS Trust as Medical Devices Training Co-ordinator.

# Meet the Management Board

## NAMDET Management Board Members



### Mary Caddies

Mary Caddies, Lead Medical Device Trainer, Barts Health NHS Trust. Mary was the regional chairperson for London and South East since its inception. She joined the Management group in 2018 and brings a wealth of experience in device audit, training and is leading the NAMDET project assisting the CQC in developing briefing guides for their inspectors.



### Dr. Michelle Dawson BSc, MB, BS, FRCA

Michelle has been a Consultant Anaesthetist at Derby Teaching Hospitals Foundation Trust since 2001 with special interests in perioperative care, regional blocks and bariatric anaesthesia.

She has been clinical lead in procurement since 2011, helping to deliver savings of over £1.4 million per annum. Michelle leads the work on 'credentialing' for NAMDET, linking us in with industry colleagues and the ever changing national agenda.



### Andy Flood Reg ODP; F.I.O.T; MSc; Dip Trng Mgt; Cert HSM; FETCert; ENB 925

Andy Flood (Rtd) Has over 40 years experience working within an Operating Theatre and Critical Care Environment. He has a clinical background as a Registered ODP, and is also military trained as an Operating Theatre Technician (Class 1), with over 25 years experience within a military setting.

Andy retired from the NHS in 2017 but continues to work with the NAMDET management group offering his vast expertise and background as both secretary, previous conference organiser and lead for medical device training.

## NAMDET Management Board Members - Our Newest Members



### **Darren Maskrey; Business Development Executive at de Smit Medical, Midlands Chair**

Darren is one of the most recent members of the NAMDET Management Board. He has enjoyed working within healthcare for the past sixteen years and is currently working for de Smit Medical as a Business Development Executive. Joining NAMDET in 2017 as a media manager he now enjoys being part of the NAMDET family as Midlands Chair. As a champion of the use of social media with NAMDET, Darren continues to help develop the website and other media platforms to promote NAMDET.



### **Cara Oliver, Infusion Sales Executive at Smiths Medical**

After four years as London and the South East Regional Chair, I decided to apply for a position on the NAMDET Management Board to support and assist with projects on a National level. I attended my first Board meeting a couple of months back and am dedicated to continuing the minimum competencies and training resource project.

Back in 1994 (now I am showing my age), I qualified as a Registered General Nurse and specialised in A&E until I moved into research nursing. I worked at Great Ormond Street Hospital researching the feasibility of lung function testing in pre-school children. It was during this project I developed an interest in respiratory physiology and enrolled for a BSc, which I achieved in 2009.

I moved to Medical Sales in 2010 (respiratory & infusion) and thoroughly enjoy meeting and supporting customers and that every day is different. I feel my clinical background greatly aids the conversations I have with customers; my understanding of the NHS and appreciation of the pressures people are under. During lockdown I really missed face to face meetings but also relished learning new ways to work and overcome the challenges we were all experiencing. I certainly would never be as experienced in chairing and hosting online meetings if it hadn't been for the restrictions on travel.

I am a very active person and enjoy participating in sport (running, cycling, surfing & swimming) and am an avid snooker fan, although useless at playing it. I have a black Labrador puppy called Hendrix who I adore. In my spare time I am training to become a beer sommelier. My homework from beer school is to drink more beer and match it with food. Is this not the best homework you could be asked to complete?

My clinical and sales experience has set me up well for my involvement with NAMDET and I am looking forward to becoming further involved and taking the national projects forward.



# REGIONAL ROUND UP

## MIDLANDS GROUP

4th October 2019 was the date we last met face to face as a regional group. I remember it very well because it was my first meeting as Midlands chair. Two years and a global pandemic later we have still yet to have the planned regional meeting as a follow up to that October gathering.



The Midlands committee made the decision early on to limit meetings through 2020 (although virtual) to reduce the pressures on members. Looking back this was the right thing to do as workloads increased and roles changed dramatically in some cases. Here's a brief round up of what's happened since then:

- We finally got our regional logo. Turns out I was able to design a logo from my newfound lockdown artistic skills.
- Juliet Evans, Clinical Education Specialist for BBraun and Midlands NAMDET secretary recently stepped down from her duties as secretary. We would like to thank Juliet for her work as secretary and her guidance through 2020 so that we delivered the appropriate level of contact with members through a challenging time.
- Fantastic news!!! Marian Amissah, Medical Device Training Lead UHB & Deputy Midlands Chair returns from maternity leave recently with our latest NAMDET member, Baby Pearl Lydia Amissah. Marian tells me Pearl's African name is Baaba, signifying she was born on a Thursday.
- Thank you to Dr. William Peasgood, Principal Scientist MDSO and acting Midlands Deputy Chair in Marian's absence. We look forward to Will's experience and input as he continues as Midlands committee member.
- As Midlands Chair I was very happy to be accepted onto the NAMDET board and look forward to supporting and learning from the wealth of experience each board member has. I'll be working closely with Paul Lee in the development of the website in coming months.
- Social media and its use to promote NAMDET has been a project close to my heart for some time now. Kieren Bruce, Sales Specialist BBraun and Midlands Media Manager, runs the region's LinkedIn page and recently launched the National NAMDET Instagram page. Kieren welcomes input from all regions to make this a success in promoting NAMDET and its work streams. Kieren is also supported by Danniella Ralph, Medical Device Training Coordinator UHB and Midlands Media Manager. This gives the Midlands a strong media team. The team are available to support other regions if needed, as we did with the recent website workshops.

We're looking forward to our next regional meeting whether that be face to face or virtual, provisionally scheduled for early February 2022.

See you then,

Darren Maskrey, Business Development Executive de Smit Medical,  
Midlands Chair and NAMDET Management Board



# NORTH WEST GROUP

The North West team :- Liam Harrison: Chair/Deputy  
Gary Siddall: Chair/Deputy  
Ali Kelly: Corporate Chair  
Richard Olver: Acting Secretary  
Jemma Smith: Media Manager



The North West team have historically met as an enthusiastic group of NHS and Corporate colleagues since January 2008. The format for our meetings has been to focus on the five core objectives from the National Strategic Plan in the morning and have a themed workshop in the afternoon.

We have met virtually three times during the pandemic and it is our hope that in 2022 we can return to this face to face format.

We have an Annual General Meeting planned on the 11th November, after the NAMDET National Conference to discuss/reflect on the main issues raised there and then to discuss our plan of subjects we intend to focus on during 2022. This will include appointing a new Secretary and a request for nominations has been circulated amongst NHS and our Corporate colleagues. Richard has already moved roles and has volunteered to be part of our Media management team, he has been joined by Jemma Smith. They will start to populate our regional site with the information about our meetings, discussions and resources we intend to develop.

One of the first jobs we have is to do is to select our logo and the candidates so far are as follows: -



In the coming months we will focus on the following subjects :-

## **Raise the status and standing of Medical Device Trainers and Educators**

The question now post pandemic is about the Educational Trainer and includes the Medical Device Safety Officer role – has it changed during the Covid pandemic?

We intend to work on :-

**Medical Device Educator and Trainer- Entry level**

**ESSENTIAL**

**The qualities without which a post holder could not be appointed**

**DESIRABLE**

**Extra qualities which can be used to choose between candidates who meet all the essential criteria**

We would like to create a job description to encompass the roles, both separately and in combination for colleagues who do both jobs

### Create a Library of Assessment Documents

The main focus though will be to try and create a library of assessment documents for use by Trusts around the North West. This has been a complex and long term project but we believe that it now has some traction and neatly lends itself to a joint collaboration between our NHS and Corporate colleagues. We hope to develop a regional resource that can assist our Trusts to deliver quality training and assessment for staff who have identified a training need, thereby intending to reduce patient harm with a medical device.

### Aim

Is to identify the factors regional members consider essential to a good quality self-assessment.

### Objectives

**Process:** To agree the assessment process within the training documents that learning outcomes can easily be added into.

**Standardise:** A 'guide' to assist in deciding frequency of updates acknowledging limitations of self-verification and identify where face to face training must be delivered.

**Validity:** Defined rubrics by which ability is judged, Incorporate a flag/trigger for training or alternative assessment methods.

**Authenticity:** Engage Industry in the development to ensure assessment criteria consistent with other assessment methods for particular devices.

**Management:** To manage this library with the facility to update documents when device functionality changes.

In addition, members of the North West group have met during the past year with the London / South East members to discuss this as a resource subject and this has resulted in the creation of the Training Resource Group now available on the NAMDET website.

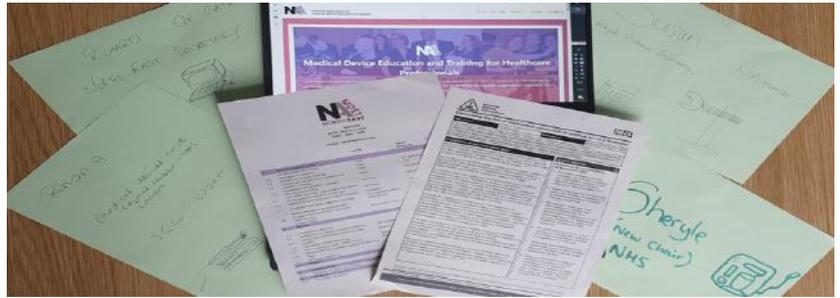
Finally, the North West team would like to formally thank Marie Law and Tammy Marsh who joined the NAMDET National Board from our regional group and have decided to move on and enjoy new chapters. Both have been responsible for developing our regional group from its early days and the national board over many years and we would like to acknowledge their knowledge, expertise, help, advice and friendship.

Good luck both for the future and maybe hope to see you both come back.

Gary Siddall,  
Medical Device Safety Officer, Chair/Deputy North West NAMDET

## NORTH EAST GROUP

With the ongoing pressures of Covid it's been hard for the Northern group to meet in person, but we have tried new ways to check in with members with a coffee break meeting via teams back in March and supporting each other when faced with multiple Patient



Safety Alerts, sharing surplus equipment and using email to connect with the northern regional members. In June we held a socially distance meeting on an NHS site with the National chair attending the meeting online, it was lovely to see people again and talk with likeminded people who had encountered the same frustrations and stresses that COVID had brought. Sheryle Miller keenly took up the position of chair and has been able to review the meeting agenda and brought the new ice breaker activity to the meeting – which helped to pick up on the members artistic skills, task to draw a device that links to their role!

Richard Tuck has been the regional secretary for 2 years, which we are all thankful for and he promptly provides the members with the minutes and remains a good support for the group. A huge thank you to all of our members who bring insight and reflections to build the supportive forum.

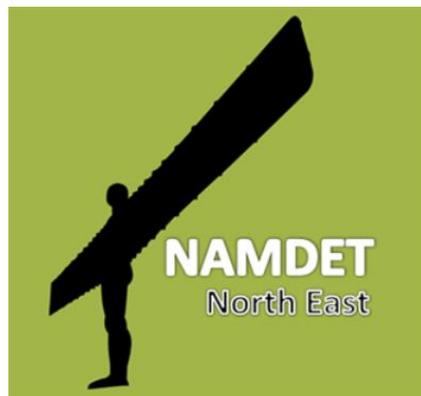
Many ideas/projects for the Northern region include:

- Designing a medical devices safety video "know your roles and responsibilities" in the style of cartoon animation which could be used throughout Trusts.
- A gap analysis submitted via NAMDET to evaluate the new update of the MHRA Managing Medical Devices Guidance (2021).
- To promote the Northern group to grow the membership
- To feature in the NAMDET journal

The Northern members are keen to keep in touch and work together to share good practice and competencies. We hope to schedule our meeting dates for 2022 soon.



Chair: Sheryle Miller



Secretary: Richard Tuck

## LONDON AND SOUTH EAST GROUP

As well as our own regional meetings, the London and South East Region have hosted joint meetings with the Yorkshire Region twice this year. Both regions are keen to progress and take the training resources / minimum competencies project forward, following the unanimous results in a poll earlier in the year.



Since the survey, work has been underway in the background to progress this project and it was decided that the NAMDET website would be the best place to host the link to the resources.

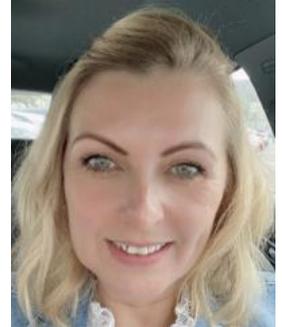
NAMDET are now establishing a new group called 'Training Resources Group' (TRG). The group is being set-up to look at national competencies for a range of topic areas. The initial project is reviewing the Safe Use of Medical Gases and Oxygen Safety resources. It is a priority for the TRG and they hope to have the resources available for access by the end of this year.

The region is currently looking for a new Chairperson as Cara Oliver, after 4 years, is standing down to take a position on NAMDET Management Board. Ideally the region would like to have a Chair and Vice Chair going forward and would very much like someone who enjoys social media interactions to raise the profile of the group.

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## YORKSHIRE GROUP

- In August we welcomed Alex Honour to the position of Chair after Keith Underwood stepped down. Alex is the European Clinical Manager at Sensium Healthcare. She has been with the company for over 6 years but has been a NAMDET member for the past 10 years.



- Alastair Jakeman continues in his position as Secretary

- We would love to expand our little team and have put in a request from members of our group to help with the social media/website side of things, so we can increase our visibility to potential new members during 2022.

- Because of the pandemic we have been having online meetings and we have missed being face to face. However, there have been some advantages because more people have been able to join the meetings, including joint meetings with the London and South East group looking at developing a resource of training materials for NAMDET members hosted on the NAMDET website.

We look forward to meeting in person again when it becomes possible, and are very excited to be hosting the NAMDET National Conference in York in 2022.





National Association of  
Medical Device  
Educators and Trainers

[www.namdet.org](http://www.namdet.org)



NAMDET Annual  
Conference (virtual)  
November 11, 2021



# CONFERENCE SPEAKERS

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**Susan Keeling,**  
Lead Pharmacist,  
Medusa NHS  
Injectable medicines  
guide

Susan and Robin will be presenting the MEDUSA slot together, entitled: **NHS Injectable Medicines guide (MEDUSA) and production of a national drug library**

HSIB asked Medusa to develop a national drug library for DERS. This talk looks at the background and what we have done so far. Susan will describe MEDUSA and explain the background to the HSIB recommendation that MEDUSA should produce a national drug library. Robin will then be describing the work that he has done.

**Robin Burfield, Senior  
Product Specialist,  
NHS Injectable  
medicines guide**



**Catriona Blake, SafetyConnect Integrated Services Manager –  
Devices**

Catriona Blake has worked at MHRA for over 20 years in various roles including as Medical Device Specialist handling a variety of incidents and as a Team Manager. She was also a part-time compliance inspector for the Regulatory Unit. Her current role is in the Combined Integrated Vigilance Services team which is implementing a new IT system to manage adverse incidents for devices, blood and medicines.

**Sara Vincent,  
Senior Medical  
Device Specialist**

Sara Vincent is a Senior Medical Device Specialist who has worked at MHRA for over 20 years, having come from a nursing and administrative background. She has worked in the area of assistive technology for over ten years .



**Sarah Jennings, Patient Safety Lead for medical devices, National  
Patient Safety Team, NHS England & NHS Improvement**

Sarah Jennings has been the National Patient Safety Lead for Medical Devices at NHS England & NHS Improvement since 2017. She has over 30 years' experience as a registered nurse across many care sectors and as a Medical Device Safety Officer and NHS Trust Decontamination Lead. Her experience in clinical human factors and appreciation of the need to consider aspects of safety across the entire lifecycle of a medical device has supported patient safety both through this role and through the development of links with the MHRA, NHS Supply Chain, BSI, clinical users, industry and other groups including NAMDET.



### **Dr. Oonagh O'Sullivan, BDS MBA B. MedSci. Medical Science Liaison at Aerogen Ltd**

Dr Oonagh O'Sullivan is a Medical Science Liaison at Aerogen, a medical device company that specialises in aerosol drug delivery via vibrating mesh technology. Oonagh has bachelor's degrees in biomedical science and dental surgery, and a master's in business administration. She is the primary contact for clinical and medical information in the UK, Ireland and the Nordics. Oonagh helps healthcare professionals make informed clinical decisions when delivering aerosol therapy and medication through Aerogen technology, as well as fielding any questions they may have. Oonagh has over 20 years of experience in the medical industry and a keen interest in evidence-based research.



### **Dr. Rebecca Nix, Medical Device Regulation Compliance Lead**

Dr. Rebecca Nix is the Medical Device Regulation Lead for Swansea Bay University Health Board. Prior to this she has worked as a Quality Implementation Manager and previously as the Head of Sterile Services within Swansea Bay. She has a background in project management and quality assurance in a highly regulated virological research organisation in Surrey, underpinned by several years' postdoctoral research experience with a PhD in Molecular Virology.



### **Elizabeth Harman, Medical Device Trainer at Barts Health NHS Trust**

Elizabeth's healthcare career started as a paediatric nurse. After qualifying she worked at Great Ormond Street Hospital gaining experience across all three of the ICU units. She left in 2017 to travel for a year and on her return began work at an infusion pump company as a trainer.

She started at Bart's as a Medical Device Trainer in January 2020 - what a year to start back in the NHS! The pandemic has brought a lot of challenges. For her, returning to clinical work and volunteering for the adult ICU will stand out. The medical device training team at Bart's organise and provide training on a wide range of medical devices and equipment used in their hospitals.

### **Andrew Brooks, Performance and Business Analyst at Barts Health NHS Trust**

Andrew joined Bart's Health NHS Trust last month and is part of the Education academy as a Performance and Business Analyst.

They help maintain the various systems used throughout education across Bart's including CATQR and the WIRED Reporting system as well as providing key analytics.



## Helen Punshon, Project Lead for the Development of Simulation

Helen undertook the role of Project lead for Simulation in October 2020. She is passionate about clinical education, especially the use of simulation and believes that it underpins high quality patient care. Her responsibilities are:

- Development of an organisational wide simulation strategy for ELHT (East Lancashire Hospitals NHS Trust) linking in with key stakeholders.
- Co-ordination of medical student OSCEs for Lancaster Medical School

She has a background of over 25 years in nursing finally specialising in Critical Care with a number of years spent as an autonomous practitioner and independent non-medical prescriber within the Critical Care Outreach Team. She moved into a full time education role and joined the Clinical Education Team at ELHT in July 2014 as Clinical Skills and Preceptorship Lead. Within this role she wrote a successful programme to support International Nurses through the NMC registration process, developed the ELHT preceptorship programme and became an Honorary Lecturer for UCLan Medical School.



## Sumant Gadge, Clinical Scientist MSc Medical Physics

Sumant works with East Kent Hospitals NHS Foundation Trust as a Clinical Scientist. His main role involves supporting the Women's and Children's Care Group for Medical device management, training and teaching as well as assisting in R&D activities at Department of Neonatology.

After completing his MSc in Medical Physics from University of Aberdeen, Sumant started working with East Kent NHS within various sections of MPACE group such as Medical Engineering, Quality Improvement, Medical Device Governance and Radiological Sciences.

Sumant is a certified Quality Auditor and sits on Health and Safety committee for Child Health. He is also a Registered Scientist and an active member of Science Council. He has published articles in journals to share his understanding and knowledge of improving clinical practices. Sumant sits on the Registration Assessment Committee and is a qualified assessor for professional registrations with Science Council and IST.

His main areas of interest are Teaching and Training, Quality Improvement, MRI and Medical Device management.



**Sheryle Miller, Clinical Education Coordinator. DipHE Registered Adult Nurse, NMC Teacher, BA in Practice Development, PGCE Teaching & Learning in Professional Practice, PGCE Patient Safety & Quality Improvement Developing Leadership Capability and Competence**

Sheryle is a motivated and enthusiastic Clinical Education Coordinator, with the remit of medical devices training coordination and lead trainer for medical gases safety and device raining for clinical staff. Sheryle has a passion to share practice to support others to make the usage of devices safer. Her current work priority is to embed the E-quip: Medical Device User Training Management System to clinical teams within the Trust.



**Chris Halcrow, Chief Technician Medical Electronics. HNC in Electronic Engineering, MSc Health and Social Care Leadership**

Chris is a Chief Electronics Technician with a keen interest in new technologies in patient safety. Overall responsibility for the service and repair of over 24,000 medical devices within Northumbria NHS Foundation Trust.



**Denise Caferelli Dees, Professional Education Faculty Lead. Healthcare Skills Training International Ltd.**

Denise began a career in clinical research, service, management and education in the field of communicative disorders at the Cleveland Clinic Foundation in the USA over 35 years ago. She has worked in both public and private healthcare, the medical device industry and in graduate degree as well as professional education, including serving as an assessor of clinical competence and external examiner for professional organisations, hospitals and universities in USA, UK/Europe, Middle East, Africa, Latin America and Australia for surgeons, clinicians and industry professionals.

Denise's work in the medical device industry included the establishment of externally accredited training programmes for customers and staff, as well as personal professional development including resilience, communication and coaching skills for members of the training team.



**Eugene Doherty, Medical Devices Coordinator**

Eugene worked in Medical Devices Governance for 16 years, most of that in the Belfast Trust, one of the largest NHS trusts in the UK, and before that has had extensive experience with medical devices and all the idiosyncrasies of their instruction and use as a staff nurse in theatres and theatre recovery. Of late he has formally developed a long standing keen interest in human factors and mistake-proofing, trying to understand why errors and incidents happen, and how we can stop them.



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# CONFERENCE PROGRAMME

Morning Session & Chair's Welcome	09:00 to 09:10	Welcome	NAMDET Chair	Logistics and event; thanks to Olympus Training Hub (Continuum)
Finance Update	09:10 to 09:20	Finance Review	John Byrne; Finance Director NAMDET	NAMDET finance report, plans for 2022; bursaries etc
NAMDET Updates	09:20 to 09:40	Annual update	Paul Lee; Chair NAMDET	New Board Members, website update, MDET, plans and projects 2021 and beyond
DERS Update	09:40 to 10:05	DERS Update: MEDUSA UK	Susan Keeling & Robin Burfield	<p><b><u>NHS MEDUSA Injectable Medicines guide website, and production of a national drug library</u></b></p> <p>HSIB asked Medusa to develop a national drug library for DERS. This talk looks at the background and what we have done so far.</p>
Device regs and safety	10:05 to 10:30	MHRA / NHSE/I	Catriona Blake & Sara Vincent	<p><b><u>MHRA Updates</u></b></p> <p>A presentation on off-label use, pulse oximeters and feedback on Hoist &amp; Sling Training Survey.</p>
			Sarah Jennings	<p><b><u>Training in a Virtual World – an update from the National Patient Safety Team at NHS England &amp; NHS Improvement</u></b></p> <p>A short summary of a couple of aspects of work within the National Patient Safety Team aligned to the NAMDET conference theme 'Training in a Virtual World'.</p>
Device regs and safety	10:30 to 10:55	Aerogen Ltd.	Oonagh O'Sullivan	<p><b><u>Aerosol Therapy: 5 Lessons Learned During COVID-19</u></b></p> <p>COVID-19 is still driving the decisions made around nebulisation for safe and effective aerosol drug delivery. During the pandemic there has been concern that nebulisation may be an aerosol generating procedure. Dr Oonagh O'Sullivan highlights the lessons learned in aerosol drug delivery and discusses the evidence on optimizing drug nebulization effectively and safely.</p>

# CONFERENCE PROGRAMME

BREAK	10:55 to 11:15	Refreshment Break (includes 2 minute silence at 11:00am for Armistice Day)		
Device regs and safety	11:15 to 11:40	MDDR regs, ISO and training	Rebecca Nix; Swansea University Health Board	<p><b><u>Medical Devices Regulations - Implementation and achievement of a certified Quality Management System - Focussing on Quality, Safety, Competency and Training</u></b></p> <p>The regulation of the manufacturing and / or modification of medical devices within the UK is changing. In response to evolving legislation, and to ensure best practice, the Rehabilitation Engineering Unit and the Maxillofacial Laboratory have implemented a joint quality management system (QMS) that has recently been externally certified as compliant to ISO 13485 (the medical device manufacturing standard).</p> <p>This presentation outlines the rationale for the implementation of the QMS, the approach undertaken – highlights and challenges - with a focus on quality, safety, competency and training, as well as some thoughts for the future.</p>
Device regs and safety	11:40 to 12:05	NAMDET poll and Q&A session	NAMDET	A chance to vote on a national poll, and review education and training Q&A for 2022 and beyond
Device regs and safety	12:05 to 12:30	QR record keeping for training	Elizabeth Harman & Andrew Brooks; Barts Health NHS Trust	The design and development of a QR code recording system for class attendance tracker (CATQR) for training compliance
LUNCH BREAK	12:30 to 13:00			
Training, Simulation and virtual world	13:00 to 13:20	Simulation training	Helen Punshon; NAMDET North West	<p><b><u>A new frontier: creative use of digital platforms to support the delivery of essential clinical skills training</u></b></p> <p>Helen will share their experiences at ELHT and how we have continued training through the Pandemic. Project Lead for the Development of Simulation; East Lancashire Hospitals NHS Trust.</p>

# CONFERENCE PROGRAMME

Training, Simulation and Virtual World	13:20 to 13:40	Simulation training	Sumant Gadge; NAMDET London and SE	<p><b><u>Virtual Neonatal Simulation: Challenges and Outcomes</u></b></p> <p>The pandemic made us change the way we live and work affecting even our day to day activities. This talk will focus on how the arrangements of teaching and simulation had to be reconfigured to suit our needs during pandemic and what our future options are to make this more sustainable.</p>
Training, Simulation and Virtual World	13:40 to 14:00	Training	Sheryle Miller & Chris Halcrow; NAMDET North East	<p><b><u>Collaborative Working for Patient Safety</u></b></p> <p>Presentation reflecting upon a safety alert which specialities developed new ways of working to minimise risk of patient harm. Opportunity for Q&amp;A</p>
<b>BREAK</b>	<b>14:00 to 14:10</b>			
Training, Simulation and Virtual World	14:10 to 14:30	TEAMS and virtual training	Denise Cafarelli Dees; Healthcare Skills International	<p><b><u>Training In a Virtual World</u></b></p> <p>Denise will be focusing on Healthcare Skills International experiences in training in the virtual world.</p>
Human Factors	14:30 to 14:50	Poka Yoke; human factors	Eugene Doherty, Medical Device Coordinator; Belfast Health and Social Care Trust	<p><b><u>Poka-Yoke in Healthcare: Stop the Blame - Mistake-proof Instead</u></b></p> <p>Despite the best intentions of applying a just culture following safety incidents, there is still a tendency to blame users, whether directly or indirectly. In this brief talk we will look at how we can apply the principles of Poka-Yoke, a LEAN manufacturing technique, to mistake-proof processes in healthcare and easily and cheaply prevent or at least reduce the chances of such incidents occurring in the first place.</p>
Closing Summary	14:50 to 15:00	Summary and closing remarks	Chair	



# BD Alaris™ neXus GP Volumetric Pump BD Alaris™ neXus CC Syringe Pump

Everything is connected for all care areas

Pressure to reduce IV therapy cost and risk is increasing. The BD Alaris™ neXus GP volumetric pump and BD Alaris™ neXus CC syringe pump make caring for patients safer, simpler and more cost-effective<sup>1,2</sup>. By evolving with BD, you can achieve your goals for safety and efficiency while reducing variability and improving nurse satisfaction.



## Protecting every infusion

The BD Alaris™ neXus GP volumetric pump and BD Alaris™ neXus CC syringe pump are easy to program with Guardrails™ dose error reduction software, which protects your patients and improves safety. Over the air secure library deployment to pumps anywhere in the hospital allow clinicians to benefit from the latest drug library and protection limits without having to remove the pump from the clinical area.

## Infusion status at a glance

With many devices needing to be managed by the patient's bedside, nurses appreciate the security of a large and clear screen that can provide detailed information. A real time central view of all pumps helps clinicians prioritise alarm response, better plan for transporting patients and for bag replacement in critical continuous infusions, allowing nurses to spend more time on patient care.

The BD Alaris™ neXus GP volumetric pump and BD Alaris™ neXus CC syringe pump are used within hospitals, healthcare facilities and during ambulance ground transportation, offering a range of features suited to drug therapy, blood transfusion and parenteral feeding.

## Powerful Analytics

Automatic over the air download of pump event logs and CQI data from anywhere in the hospital improves the process without interrupting clinical workflows as pumps are infusing. Allowing users to use provided tools to identify, track, and ultimately reduce harmful medication errors.<sup>1</sup>

## Early clinical intervention

Unforeseen IV therapy interruption is a concern in critical medicine. The BD Alaris™ neXus CC syringe pump offers SMART technology to recognise if a pressure disc infusion set is in place for real time in-line pressure monitoring in increments of 1 mmHg and visual pressure trends over several hours – helping to reduce time to alarm and allowing for early clinical intervention. In scenarios in which high resolution of pressure monitoring may not be needed, using a standard infusion set will provide default pressure level settings for occlusion detection.



## Features and benefits

-  Standardised **user-friendly interface** to start infusion with few key presses.
-  **Large and clear display** shows all key parameters at a glance.
-  **Pressure limits** allows early identification of line occlusion.
-  The **air-in-line sensor** reliably detects air in the IV line, reducing the risk of infusing air into the patient.\*
-  **Visual beacon** ensures an alarm or a warning condition is visible from a distance.
-  New PCB assemblies deliver enhanced display sharpness and viewing angle, less power usage and faster microprocessor.
-  **Long-lasting internal battery** charges automatically when connected to AC power.
-  **Integrated pole clamp** for secure fixing to vertical IV poles (15-40 mm diameter).
-  **Intuitive colour-coded sets** for easy loading and removal.
-  **Complete dedicated set portfolio** available at [bd.com/uk/ivtherapy](http://bd.com/uk/ivtherapy).
-  **Alaris™ Gateway Workstation** creates an organised workspace and connects the pump to the hospital information systems.
-  **In-line pressure monitoring** promotes early intervention to prevent potential complications such as interruption of flow.\*\*
-  **Wi-Fi enabled** for automatic transmitting of infusion data to the hospital information systems.
-  **Dual colour chevrons** to help minimise programming errors.
-  Improved durability with a **more resilient material** to a variety of cleaning agents.
-  Able to **standardise protocols hospital wide** with 3,000 drug setups, 30 profiles and unlimited setups per profile in the drug library.
-  Alaris™ Infusion Central provides a remote **central view** for nurses to monitor all infusions.
-  **Quiet mode** minimises noise when required.

\* This feature is only available on the BD Alaris™ neXus GP volumetric pump. \*\* This feature is only available on the BD Alaris™ neXus CC syringe pump.



### References:

<sup>1</sup> Ohashi K, Dalleur O, Dykes PC, Bates DW. Benefits and risks of using smart pumps to reduce medication error rates: a systematic review. *Drug Saf.* 2014;37(12):1011–20; 2 Manrique-Rodríguez S, Sánchez-Galindo AC, López-Herce J, Calleja-Hernández MA, Martínez-Martínez F, Iglesias-Peinado I, et al. Implementing smart pump technology in a pediatric intensive care unit: a cost-effective approach. *Int J Med Inform.* 2014;83:99–105

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# BARTS HEALTH USING INNOVATIVE QR CODE SOLUTION FOR RECORDING TRAINING ATTENDANCE

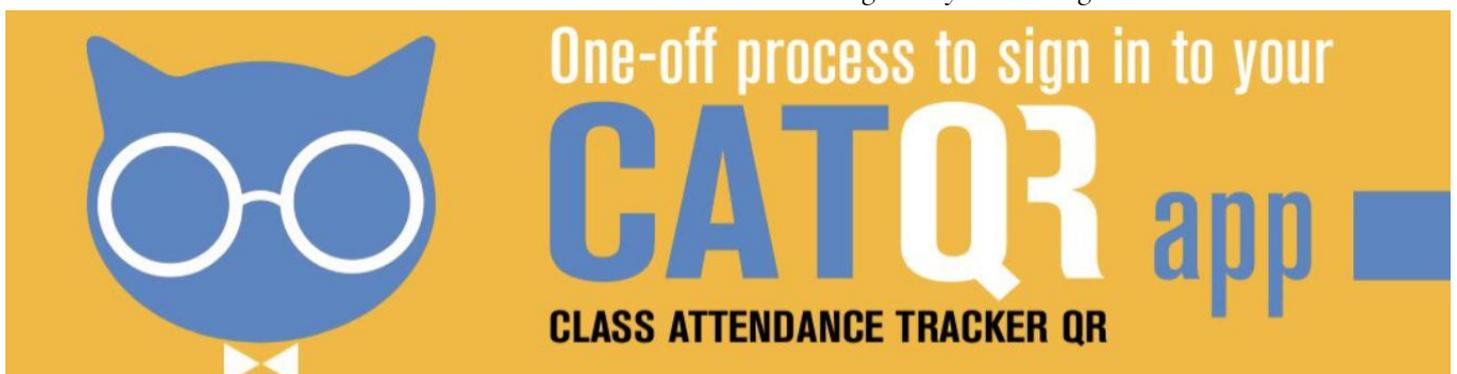


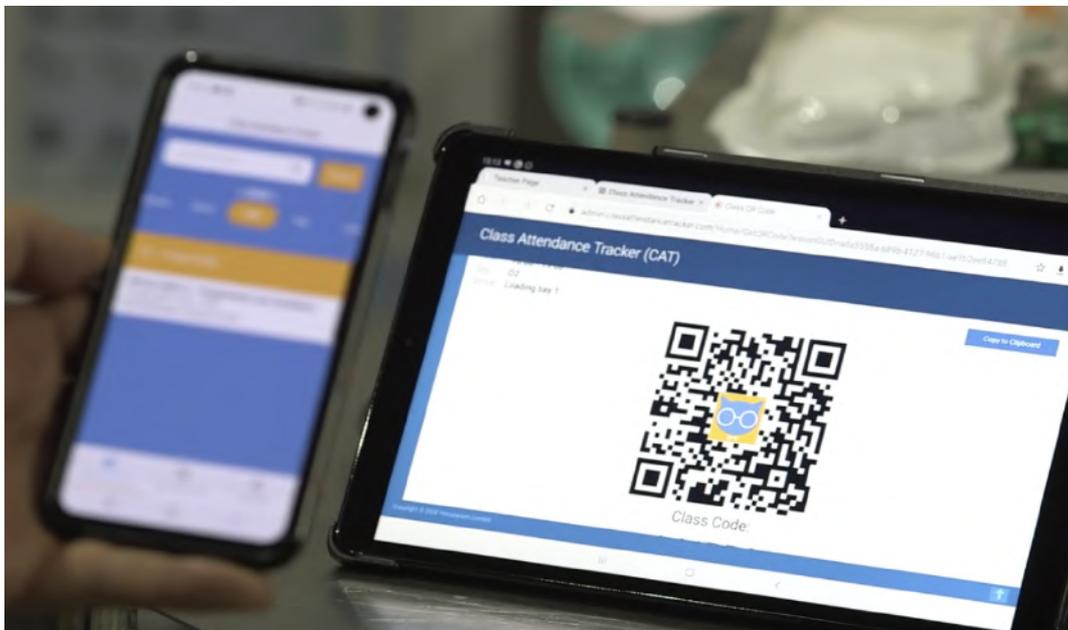
There are many reasons training teams may choose to attempt to go paperless; maybe environmental, maybe simply to carry less, and most recently during the pandemic paper hand-outs were discouraged. Digitalisation is also often met with resistance- not everyone is comfortable with technology and for some inexplicable reason nurses love paper, especially if it's a certificate. But are paper registrations still the most practical solution to attendance recording? As part of its digitisation journey Barts Health NHS Trust has implemented the Class Attendance Tracker (CAT) system, a pioneering QR code technology to monitor training attendance.

Traditional QR code solutions typically require the event organiser to scan each attendee's personal QR code, whereas the CAT solution flips this concept and the attendee scans a single event QR code to record their attendance.

CAT tracks attendance in real-time and provides the governance compliance the Trust requires. CAT is a simple paperless solution that uses QR codes and attendees' mobile phones, via an app (available to download), to record attendance at face-to-face and virtual training events. This then allows classroom and event organisers to avoid the inefficient use of paper registers and roll calls or investing in expensive infrastructures such as card-reading tech. Stakeholders can have confidence the data is accurate, and most importantly, is available immediately.

Barts Health Education Academy shared this digital innovation with NHS Nightingale Hospital London, which was led by Barts NHS Health Trust. Staff and volunteers registered their attendance using only mobile phones and QR codes - removing all the complications and delays caused by manual processes involving paper registers. Whilst the hospital was open, 1,693 people used the CATQR mobile app for their education and training, with 13,374 scans recorded and reported in real-time. This represents, on average, one person attending nearly 8 training sessions. Watch the NHS





Administrators are also able to simply record whether that competence was obtained or not with one tick. If competence is not achieved, the system allows immediate feedback to the attendee and their line manager to ensure further training and support is offered. Records are also sent after the session automatically to the trainers email and in excel form.

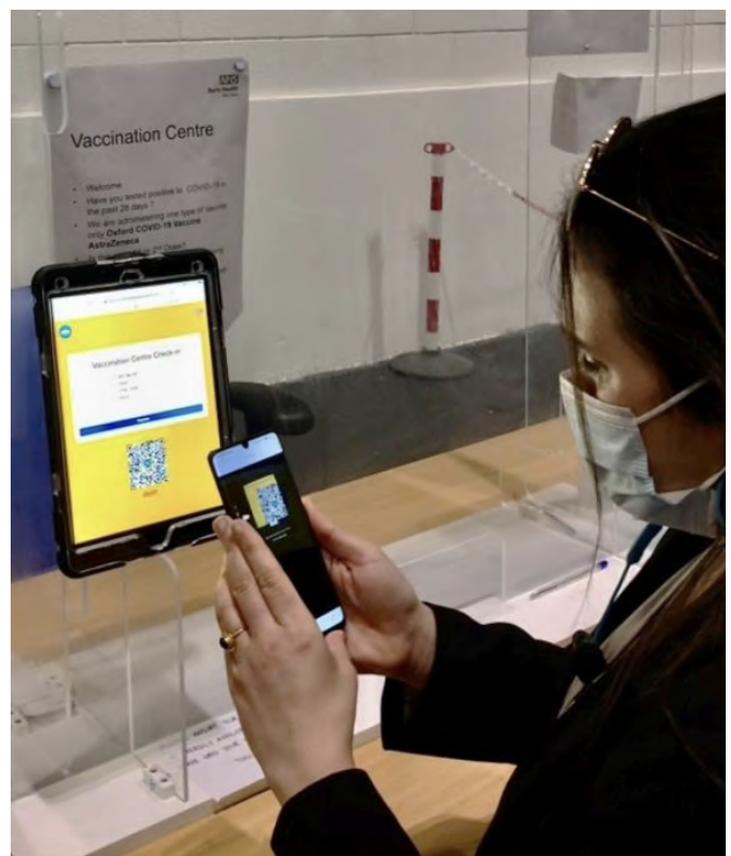
Nightingale Hospital London's experience with CATQR for induction training [here](#). CATQR later then became an integral part of the Newham COVID-19 vaccination centre (ExCel) for tracking of induction and training of volunteers,

Organisers, such as the Medical device training team, benefit from accurate, real-time attendance tracking with minimal administration (it takes less than 5 minutes to set up a code), while attendees also benefit with the certainty that their attendance is recorded and the ability to view their personal real-time attendance history, as the training instantly shows on their online education records. This can then be used in the future as evidence of training attendance.

QR codes can be made for one-off sessions or for long term timescales. Often the preferred option is to project or have the code on a screen. There is also the option for the code to be printed and carried by trainers; this is useful for potential ADHOC training. The QR codes can also be set up with a Dynamic QR code (a Code that updates every 5 seconds) to ensure no one can fraudulently scan when not attending the training session. For virtual training, being able to share the code on screen has eased taking attendance for training especially in situations such as when multiple people are in a room together sharing a screen. If an attendee does not have the app on attendance to the session their nhs.net email can be used by the organiser though a separate teacher page and a reminder sent to the attendee after the session.

*I can't tell you how many times as the code is being shared in a room attendees have scanned, looked at me, asked what else they have to do, and then when I respond "nothing, all done" just said "is that it?! That's so easy!"*

*Elizabeth Harman, Medical Device Trainer, Barts Health NHS Trust*





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# NHS INJECTABLE MEDICINES GUIDE (MEDUSA)

## National Smart Pump Drug Libraries Project, First and Second Scoping Reports

In December 2020, the HSIB published the [HSIB report: Procurement, usability and adoption of 'smart' infusion pumps](#). One of the recommendations in the report is as follows: It is recommended that the MEDUSA UK Injectable Medicines Guide\_ advisory boards, in conjunction with other relevant multi-professional organisations, develops validated national drug libraries for smart infusion pumps.

The IMG responded to the recommendation (the IMG response is shown at the bottom of the page - see link above). As part of this work, The IMG decided to do some scoping work to establish some metrics around existing drug libraries. This scoping work would then guide the subsequent work in response to the recommendation.

The IMG have produced two reports to explore the scope of the work involved. The first report is looking at the concentrations used in drug libraries as a starting point for work to extend the ICS and NPPG standard concentration lists. The second report is looking at dose and volume rates used in continuous infusions and the readiness and viability of a national drug library.

### Methodology and Analysis

The IMG put out a request for NHS Trusts to send in their drug libraries, both adult, paediatric and neonatal. We received over 75 drug libraries written for different pumps from different pump manufacturers.

The data was extracted from the libraries and

analysed. The data received from different pump manufacturers was in different formats so a schema was devised that allowed the data to be loaded into a single database. The schema was applied to each library and a degree of standardisation work was required to load the data. The data was then analysed further to produce the two reports required.

### Conclusion

The output of the first report is three tables; one each for adults, paediatrics and neonatal. The tables show the concentrations used by drug and how frequently these concentrations are used. The report recommends that further work be undertaken to convert the more frequent concentrations into national standard concentrations extending the ICS and NPPG standards.

The output of the second report is a number of reports showing the rates used for continuous infusions by drug, again split into for adults, paediatrics and neonatal. The report concludes that currently there is little consensus across the majority of the reports and that this sort of empirical approach to developing a national drug library for smart pumps is not viable at present but goes on to make some suggestions or recommendations on future work that would be a prerequisite before a national drug library could be tackled.

*\*Note from Editor: At this year's NAMDET Virtual Conference the MEDUSA team will be sharing some of the information gathered so far with a view to establish a project team for early 2022, where the findings can be discussed and a consensus agreed as a way forward.*



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# INTRODUCTION TO VIBRATING MESH TECHNOLOGY

## Safety Alert from Oonagh O'Sullivan at Aerogen Ltd.

Vibrating-mesh nebulisers (VMN) currently demonstrate optimal aerosol delivery compared to jet nebulisers and ultrasonic nebulisers in the critical care environment (1-4). The VMN (Aerogen Solo, Aerogen Ltd., Galway, Ireland) device utilises active vibrating mesh technology. The nebuliser consists of a dome shaped palladium core with 1000 cone-shaped apertures. It is electrically powered by a controller and energy applied to the vibrational element causes vibration of the plate at 128,000 times per second (5). Each one of the 1000 cone-shaped apertures within the mesh acts as a micropump drawing liquid through the holes producing a low velocity aerosol optimised for targeted drug delivery to the lungs (6). The particle size is consistent and allows the delivery for deep lung penetration (5).

### Issues in Air Flow Generated Nebulisers

A recent NHS National Patient Safety alert highlighted the risk of hypoxia when connecting to air instead of oxygen via a flowmeter from a wall medical gas outlet. The alert has stated, "Purchase sufficient powered nebuliser devices for use across the organisation; to remove the need for medical air to drive nebulisers via a flowmeter" (7). In June 2021, Joint guidelines from the Intensive Care Society (ICS) and British Thoracic Society (BTS), have stated, that multiple open circuit devices can raise room Oxygen levels (8), and in Nov 2020 an NHS CAS Alert also stated that use of high flow open circuit devices contributes to higher levels of ambient oxygen, and ambient oxygen levels should be kept to 23% to prevent a fire hazard (9).

### Finding Solutions - An Electrically Powered In-Line Nebulisation System

The Aerogen Solo Vibrating Mesh is an electrically powered system (5) that negates the need for use of gas to drive nebulisation, VMNs have no influence on gas flow (10) there is no need for an air flow meter to power the device there is no associated risk of potential connection of oxygen devices to an incorrect air flow meter. In addition, no added oxygen flow means there will be no impact on ambient oxygen levels by the nebulizer. The functionality of the Aerogen Solo offers a practical solution to the NHS National Patient Safety Alert.

VMNs separate the medication from the patient interface, including breathing circuits, by the barrier of the mesh. This mesh maintains pressure in the ventilator circuit when the medication reservoir is opened to add medication, without a measurable leak of gas through the nebulizer to atmosphere, allowing medication to be added without breaking the ventilator circuit (11). In a letter to the editor of the Journal of Critical Care, Miller et al reported their use of continuous nebulisation by Vibrating Mesh Nebulisers in invasively and non-invasively ventilated COVID-19 patients with COPD and asthma. The authors stated that this closed system requires minimal staff handling and no circuit opening, thereby reducing workload, and improving safety to the HCP (12). JNs are open to the circuit and may cause potential contamination (13). Additionally, the Global Initiative for Chronic Obstructive Lung Disease (GOLD) stated specifically in Covid-19 patients, "Using a mesh nebulizer in ventilated patients allows adding medication without requiring the circuit to be broken for aerosol drug delivery." (14). UK guidelines state that nebulisation in general is not an AGP procedure (15-18).

### Efficacy for the Patient

In the UK, a recent abstract published at the Royal College of Emergency Medicine (19) compared outcomes following bronchodilator delivery in moderate to severe Asthmatics (spontaneous breathers not requiring ventilatory support) via VMNs and Jet Nebulisers (JN). The primary outcome was reduced length of stay (LOS) in the Emergency Department (ED). LOS was reduced in the VM group by a median

of 39 mins vs JNs. This corroborates results from a similar ED study conducted in the US . In this prospectively designed quality improvement study the authors analysed the electronic medical records of patients in the ED receiving bronchodilators via either a VMN or a JN, median LOS was reduced by 37 mins vs JNs (20).

In both studies the amount of bronchodilator (mg) required was significantly lower. The amount of Salbutamol required in the UK study, in the VMN vs the JN arm was, 7.5mg vs 9.6mg, respectively (p= 0.023) (19), and in the US study the total albuterol dose administered was significantly lower in the VMN group compared to the JN (p 0.001) (20).

Other studies are available demonstrating efficacy in Mechanical Ventilation, Non-Invasive Ventilation and High Flow Nasal Canula vs JN (21-26).

### Issues Pertaining to the Environment

Global warming and propellants used in nebulising through pressurised metered dose inhalers (pMDIs) are an issue for the environment. The United Kingdom Government's Environmental Audit Committee has challenged the UK National Health Service with the task of reducing the Global Warming Potential impact of respiratory treatments by 50% before 2022.

Hydrofluoroalkane propellants which are used in pMDIs are harmful to the atmosphere due to their potential effect on Global warming Potential (GWP) which is more than 1000 times greater than carbon dioxide (27). VMNs are powered and do not require propellants.

### Stability

More drugs can be nebulised using VMNs, in contrast to VMSs, ultrasonic nebulisers do not nebulise suspensions or liquids with high viscosity or a high surface tension . Ultrasonic nebulizers produce heat during nebulization and their residual mass is often over 50% of the drug mass loaded in the reservoir (28). Several drugs are not available as MDI formulations such as antibiotics, mucokinetics and mucolytics (29).

### Portability and Ease of Use

The Aerogen Vibrating Mesh nebuliser is a device used up to four doses a day for 28-day intermittent use, unlike JNs should be used for 24 hours (10). This switching of JNs may cause de-recruitment of the lungs (10, 31) During this 28-day period the nebuliser can be transferred with the same patient to different departments for different clinical applications and is either powered by the Aerogen Pro- X controller or a USB controller (5). VMNs are small and portable nebulizers that are powered by either battery or electricity have short treatment times, increased output efficiency, and minimal residual volume. JNs have reduced portability, lengthy administration time, low efficiency in drug delivery, significant medication wastage with fugitives emissions (10)

### Patient Comfort

VMNs are fast, with silent operation and are easy to use (29) while both Jet nebulisers and pMDIs are dependent on the patient and HCP technique (10, 30).

### References

1. Dugernier, J. et al. Aerosol delivery with two ventilation modes during mechanical ventilation: a randomized study. *Ann Intensive Care* 6, 73 (2016).
2. MacIntyre, N. R., Silver, R. M., Miller, C. W., Schuler, F. & Coleman, R.. E. Aerosol delivery in intubated, mechanically ventilated patients. *Crit. Care Med.* 13, 81-4 (1985).
3. Ari, A. et al. Influence of nebulizer type, position, and bias flow on aerosol drug delivery in simulated pediatric and adult lung models during mechanical ventilation. *Respir Care* 55, 845-851 (2010).
4. Ari, A. et al. Evaluation of aerosol generator devices at 3 locations in humidified and non-humidified circuits during adult mechanical ventilation. *Respir Care* 55, 837-844 (2010).
5. Aerogen Solo System Instruction Manual. Aerogen Ltd. P/N 30-354, Part No. AG-AS3050.
6. Dhanani, J. et al. Fundamentals of aerosol therapy in critical care. *Critical Care* 2016. 20:269 DOI 10.1186/s13054-016-1448-5.
7. Air-flowmeter-NaPSA-FINAL.pdf (england.nhs.uk)
8. Respiratory Support Units\_ Guidance on development and implementation (1).pdf
9. CAS Alert Oxygen (5).pdf
10. Erhmann. S. Vibrating Mesh Nebulisers- Can greater drug delivery to the lungs lead to better outcomes? *European Respiratory and Pulmonary Disease.*

11. Fink JB, Ehrmann S, Li J, Dailey P, McKiernan P, Darquenne C et al. Reducing Aerosol-Related Risk of Transmission in the Era of COVID-19: An Interim Guidance Endorsed by the International Society of Aerosols in Medicine. *J Aerosol Med Pulm Drug Deliv* 2020; : jamp.2020.1615.
12. Miller A, Epstein D. Safe bronchodilator treatment in mechanically ventilated COVID-19 patients: A single centre experience. *J. Crit. Care.* 2020; 58: 56–57.
13. Lavorini F, Pregliasco F. Aerosol therapies during the SARS-CoV-2 pandemic. *Rassegna di Patologia dell'Apparato Respiratorio* 2021;36:31-37 doi: 10.36166/2531-4920-A053
14. Vecellio L. The mesh nebuliser: a recent technical innovation for aerosol delivery. *Breathe* 2006; 2: 252–260.
15. Halpin DMG, Criner GJ, Papi A, Singh D, Anzueto A, Martinez FJ et al. Global Initiative for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease: The 2020 GOLD Science Committee Report on COVID-19 & COPD. *Am J Respir Crit Care Med* 2020. doi:10.1164/rccm.202009-3533SO.
16. Therapeutics and COVID-19: living guideline (who.int)
17. COVID-19 infection prevention and control guidance: aerosol generating procedures - GOV.UK.
18. COVID-19: information for the respiratory community | British Thoracic Society | Better lung health for all.
19. Overview | COVID-19 rapid guideline: community-based care of patients with chronic obstructive pulmonary disease (COPD) | Guidance | NICE.
20. Abdalla M, Elkhodair S, Sevilla Perez F, Wong R, Austin H, Rau C, Patterson M Garcia B, Leal T, Murphy C, Ceris T, Walton H. A comparison of the Aerogen Vibrating Mesh Nebuliser versus a standard Jet Nebuliser to deliver bronchodilators to moderate to severe asthma patients in the Emergency Department. Poster Present Royal College of Emergency Medicine. 2021.
21. Dunne RB, Shortt S. Comparison of bronchodilator administration with vibrating mesh nebulizer and standard jet nebulizer in the emergency department. *Am J Emerg Med* 2018; 4: 641–646.
22. Avdeev SN, Nuralieva GS, Soe AK, Gainitdinova VV, Fink JB. Comparison of Vibrating Mesh and Jet Nebulizers During Noninvasive Ventilation in Acute Exacerbation of Chronic Obstructive Pulmonary Disease. *J Aerosol Med Pulm Drug Deliv.* 2021 Apr 13. doi: 10.1089/jamp.2020.1665. Epub ahead of print. PMID: 33848441.
23. Galindo-Filho VC, et al. Radioaerosol Pulmonary Deposition Using Mesh and Jet Nebulizers During Noninvasive Ventilation in Healthy Subjects. *Respir Care* 2015; 60: 1238–46
24. Galindo-Filho et al. A mesh nebulizer is more effective than jet nebulizer to nebulize bronchodilators during non-invasive ventilation of subjects with COPD: A randomized controlled trial with radiolabeled aerosols. *Respir Med.* 2019; 153: 60–67
25. Alcoforado L, Ari A, De Melo Barcelar J, Brandao SS, Fink JB, Dornelas De Andrade A. Comparison of Aerosol Deposition with Heated and Unheated High Flow Nasal Cannula (HFNC) in Healthy Adults. Poster Present ATS 2016.
26. Dugernier J, Dugernier J, Hesse M, Jumeret T, Bialais E, Roeseler J, Depoortere V et al. Aerosol Delivery With Two Nebulizers Through High-flow Nasal Cannula: A Randomized Cross-over Single-photon Emission Computed Tomography-computed Tomography Study. *J Aerosol Med Pulm Drug Deliv* 2017; 30: 349–358. *Al. J Aerosol Med Pulm Drug Deliv.* 2017; 30(5): 349–58
27. Reminiac et al. Nasal highflow bronchodilator nebulization: a randomized crossover study. *Ann. Intensive Care* (2018) 8:128 <https://doi.org/10.1186/s13613-018-0473-8>
28. Keeley D, Scullion JE, Usmani OS. Minimising the environmental impact of inhaled therapies: problems with policy on low carbon inhalers. *Eur Respir J* 2020; 55: 2000048. DOI: 10.1183/13993003.00048-2020
29. Gardenshire, DS, Burnett, D, Strickland, S, Myers T. A Guide To Aerosol Delivery Devices for Respiratory Therapists. 2017.
30. Ari A, Jet Ultrasonic & Mesh Nebulizers,; An Evaluation of Nebulizers for Better Clinical Outcomes. *Eurasian J. Pulmonol.* 16, 1–7 (2014).
31. Joyce J, McGrath J, Marc MacGiolla J et al. Nebuliser type influences both patient derived bioaerosol emissions and ventilation parameters during mechanical ventilation. *Pharmaceutics*, 2021, 13(2), 199



## AEROSOL DRUG DELIVERY WITHOUT THE ADDED FLOW

In the UK there is increasing pressure for hospitals to reduce the use of gas flow in respiratory therapies due to health and safety concerns. In the last 12 months alone, three separate guidance documents have called for restrictions around gas flow use<sup>1-3</sup>



**National Patient Safety Alert**

### NHS National Patient Safety Alert

**Eliminating the risk of inadvertent connection to medical air via a flowmeter<sup>1</sup>**

Purchase sufficient powered nebuliser devices for use across the organisation; to remove the need for medical air to drive nebulisers via a flowmeter  
**Deadline: 16 November 2021**



### British Thoracic Society and Intensive Care Society Guidance

**Respiratory Support Units: Guidance on development and implementation<sup>2</sup>**

Multiple open respiratory circuits may increase ambient oxygen concentrations. Consideration should be given to ambient oxygen concentrations, ventilation, humidity, and fire risk.



### NHS Estates and Facilities Alert Fire Hazard

**Covid-19 Response – Oxygen Supply and Fire Safety<sup>3</sup>**

High ambient oxygen levels and fire risk: Use of high flow open circuit oxygen devices carries a risk of increasing ambient oxygen concentration. If this exceeds 23% this poses a potential fire risk.

Most types of nebulisers require either added gas flow or a break in the circuit to deliver aerosol therapy<sup>4,5</sup>

## AEROGEN CAN HELP YOU COMPLY

Aerogen is a safe, effective and trusted solution for patients requiring nebulisation<sup>5-10</sup>, removing any of the risks associated with inadvertent connection of air flow meters or fire hazard as gas flow is not required<sup>11-13</sup>

### Vibrating mesh technology<sup>11</sup>

- Electrically powered, can be used with and without gas flow<sup>11</sup>
- The only closed circuit aerosol drug delivery system<sup>5-10</sup>
- Consistently produces the optimum particle size for deep lung penetration<sup>11,4</sup>
- Virtually silent delivery<sup>11,14</sup>



**AEROGEN IS THE IDEAL SAFE SOLUTION FOR YOUR HOSPITAL AS IT IS A POWERED DEVICE NEEDING NO GAS FLOW TO DRIVE IT<sup>11-13</sup>**

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1. NHS England. Eliminating the risk of inadvertent connection to medical air via a flowmeter. June 2021. <https://www.england.nhs.uk/wp-content/uploads/2021/06/Air-flowmeter-NePSA-FINAL.pdf>. Accessed September 2021. 2. British Thoracic Society and the Intensive Care Society. Respiratory Support Units: Guidance on development and implementation. June 2021. <https://www.brit-thoracic.org.uk/delivery-of-care/respiratory-support-units/>. Accessed September 2021. 3. NHS Estates and Facilities Alert. Covid-19 Response – Oxygen Supply and Fire Safety. November 2020. <https://www.cas.nhs.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=103024>. Accessed September 2021. 4. Dhanaani J, Fraser J, Chan H, Rello J, Cohen J, Roberts J. Fundamentals of aerosol therapy in critical care. *Critical Care*. 2016; 20. 10.1186/s13054-016-1448-5. 5. Ari A. Practical strategies for a safe and effective delivery of aerosolized medications to patients with COVID-19. *Respir Med*. 2020; 167. doi:10.1016/j.rmed.2020.105987. 6. Miller A, Epstein D. Safe bronchodilator treatment in mechanically ventilated COVID-19 patients: A single center experience. *J. Crit. Care*. 2020; 58: 56–57. 7. Fink JB, Ehmann S, Li J, Dailey P, McKernan P, Desjardine C et al. Reducing Aerosol-Related Risk of Transmission in the Era of COVID-19: An Interim Guidance Endorsed by the International Society of Aerosols in Medicine. *J Aerosol Med Pulm Drug Deliv* 2020. doi:10.1089/jamp.2020.3015. 8. Hajjaj DMG, Cinar GJ, Pagi A, Singh D, Anzueto A, Martinez EJ et al. Global Initiative for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease: The 2020 GOLD Science Committee Report on COVID-19 & COPD. *Am J Respir Crit Care Med* 2020. doi:10.1164/rccm.202009-3533SO. 9. O'Toole C, McGrath JA, Joyce M, Bennett G, Byrne MA, MacLoughlin R. Fugitive Aerosol Therapy Emissions during Mechanical Ventilation: In Vitro Assessment of the Effect of Tidal Volume and Use of Protective Filters. *Aerosol Air Qual Res* 2020; 20. doi:10.4209/aaqr.2020.04.0176. 10. Joyce M, McGrath JA, Mac Giolla Eain M, O'Sullivan A, Byrne M, MacLoughlin R. Nebuliser Type Influences Both Patient-Derived Bioaerosol Emissions and Ventilation Parameters during Mechanical Ventilation. *Pharmaceutics* 2021; 13: 199. 11. Aerogen Solo System Instruction Manual. Aerogen Ltd. P/N 30-354, Revision U. 12. Lin HL, Fink JB, Ge H. Aerosol delivery via invasive ventilation: a narrative review. *Ann Transl Med* 2021; 9: 588–588. 13. Li J, Fink JB, MacLoughlin R, Dhand R. A narrative review on trans-nasal pulmonary aerosol delivery. doi:10.1186/s13054-020-03206-9. 14. Ari A. Jet, Ultrasonic, and Mesh Nebulizers: An Evaluation of Nebulizers for Better Clinical Outcomes. *Eurasian J Pulmonol* 2014; 16: 1–7. 15. Sidler-Moix A-LL, Di Paolo ER, Dolci U, Berger-Gyfalvi M, Cotting J, Pannatier A. Physicochemical aspects and efficiency of albuterol nebulization: comparison of three aerosol types in an in vitro pediatric model. *Respir Care* 2015; 60: 38–46.



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# MEDICAL DEVICE TRAINING AND THE NEW NORMAL

*Written by Becky Chamberlain*



**‘TRAINING IN A VIRTUAL WORLD’: IT MAY SEEM SECOND NATURE NOW**

Today we are all familiar with using video conference calling to communicate with each other. However, the shift towards this virtual world when communicating with the NHS was not common practice at the start of the pandemic. It required a proactive and quick response following the news of lockdown in March 2020. de Smit Medical is one of the leading suppliers of bladder scanners to the NHS; the restrictions of the pandemic prompted us to rethink the way we carry out training. Whilst we had to carefully modify our in-person training, it also saw the creation of a virtual bladder scanner resource package. This helped us to maintain our commitment to high quality medical device training. In this article, we will be taking a look at the timeline of events and how new resources can be used for training in the future – whether that be face-to-face, virtual or both.

## VIRTUAL TRAINING: A FLEXIBLE APPROACH

As the pandemic began to unfold, the demand for bladder scanner training never diminished. However, our ability to deliver this training did. Following Boris Johnson's statement on 16 March that, 'now is the time for everyone to stop non-essential contact and travel,' we quickly realised that access to hospitals to provide training was no longer going to be possible. It was made a priority to find a solution.

With a large tender coming in and existing customers with training requirements to fulfil, we wanted to maintain a business-as-usual response with as little disruption as possible. We set ourselves a two-week deadline

to develop a virtual training resource package - 1 April. The pressure was on!

Focusing on the operational aspects of bladder scanning, the package was intended to support training given over Microsoft Teams. Our response team decided that a variety of visual aids would give our customers the most choice when it comes to training; we pulled together all the necessary information into multiple formats including an audio guide, instructional video, user manual, FAQs, quick start guide, training record and checklist and cleaning and disinfecting guidance. We successfully launched the virtual resource pack on 1 April – now we just needed to put the resource pack into practice.

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## HOW DOES VIRTUAL BLADDER SCANNER TRAINING WORK?

Bladder scanner device training may seem like something that has to be demonstrated in person. In a pandemic when this option is limited, a creative response is needed. From April, our training on bladder scanners moved – for the most part – into the virtual world. By sending the resource package to each Trust beforehand, the students had the chance to read through or watch the educational videos, as well as print out the training record and checklist. The learning would then be consolidated in a Microsoft Teams meeting that would typically have 6-8 students (usually device educators or cascade trainers).

This process was received well, one Medical Equipment Training Coordinator commented that 'the resources supplied were excellent and

*"the resources supplied were excellent and with them we were able to create an online training module"*

with them we were able to create an online training module on the Trust's Learning Management System.' We found that Trusts would save the resource pack to their intranet for it to be easily accessed Trust-wide.

The response showed us that despite the barriers in place, the demand for this training never dwindled and that many Trusts were pleased to have the training delivered in a new format.

## FACE-TO-FACE: ADAPTING TO COVID MEASURES

Adapting to a virtual way of training was clearly new ground for everyone and has shown us the possibilities moving forward. We also had to significantly adapt our practices for the few face-to-face training sessions that went ahead later in 2020.

The training environment was completely different during the pandemic and there was some feeling of anxiety amongst representatives. Extensive measures were taken to ensure the safety of our staff and the people being trained. Sessions were carried out in a non-clinical area, with fewer students and of course full PPE. We fully complied with Trust regulations and provided extra scanners so that NHS staff and our representatives could maintain social distancing. Modifications to the learning even came down to changing



the dress code for representatives, so that clothes could be washed easily at the end of the day.

This was completely new territory for training in which we had to compromise and adapt to ensure that our training commitments were being fulfilled, whilst maintaining the safety of the team.

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## *So, what has changed about training now?*

The restrictions imposed by the pandemic kickstarted a movement towards ‘training in a virtual world.’ It prompted us as a company to respond quickly with a digital solution. Now, we have range of training materials and formats that give each Trust a choice in how they receive their training, whether that be face-to-face, virtual or both.

Last year was all about adapting to the training requirements of each individual trust. These events have opened us up to other opportunities for training in the future. We intend to setup routine training days for anyone in the country needing bladder scanner training. This would utilise the virtual training pack and Teams training sessions – just as we did in 2020.

To complement our virtual user training, we have also launched a generic online bladder scanner clinical training package.

# THE THEORY OF BLADDER SCANNING

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# Conferences and Webinars of Interest

Access the NAMDET [website here](#); to see all registration details or click on the links to find out more.

<b>11</b> November 2021		<b>NAMDET Annual Conference (Virtual) Nov 11th 2021</b> NAMDET are pleased to announce that we are partnering with Olympus Medical and their 'virtual hub' to host our annual conference for 2021. The theme is 'Training in a Virtual World' and we have a range of speakers form MHRA, NHSE&I and NAMDET Members too. Download the flyer to register to attend NAMDET-Flyer <a href="#">Find out more »</a>
<b>11</b> November 2021		<b>London &amp; South East Regional Meeting</b> Following on from the NAMDET Conference, London and South East region will be hosting their meeting to review any local issues and any outcomes from the national event. Follow the link for the 'Event Website' below to access the TEAMS meeting or email <a href="mailto:senamdetchair@gmail.com">senamdetchair@gmail.com</a> If you would like to express your interest for the Chair/Vice chair roles, ... <a href="#">Read More »</a> <a href="#">Find out more »</a>
<b>23</b> November 2021		<b>Overview of Medical Devices Regulation and the Challenges Ahead</b> The aim of the event is designed to provide SMEs an understanding of the Medical Device Regulation. Alison Bray, Lead Clinical Scientist, Medical Device Development Service, Northern Medical Physics and Clinical Engineering from Newcastle upon Tyne Hospitals NHS Foundation Trust, will provide: • An understanding of the Medical Device Regulation • Developing medical devices for ... <a href="#">Read More »</a> <a href="#">Find out more »</a>
<b>24</b> November 2021		<b>Healthcare Technology in the Future – The Role of the Engineering Workforce</b> The Chief Scientific Officer for England Professor Dame Sue Hill invites you to join a unique workshop on Healthcare Technology in the Future – The Role of the Engineering Workforce. This event will bring engineers of all levels and backgrounds together and give them a platform to shape how engineering in healthcare could look in the ... <a href="#">Read More »</a> <a href="#">Find out more »</a>
<b>08</b> December 2021		<b>NAMDET Wales Regional Meeting (TEAMS)</b> NAMDET Wales are hosting a virtual meeting for December 8th from 10 til 12 p.m. Invites have been sent to all previous members, and if you haven't received one please contact the meeting coordinator. We will be reviewing and setting new agenda and meeting planner for 2021/22 and also establishing new roles for Regional Chair ... <a href="#">Read More »</a> <a href="#">Find out more »</a>

Please checkout the NAMDET website [as new posts](#), and events are added regularly. Sign up for free NAMDET membership and get email posts and automatic notifications when each new post is added.



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# MEDICAL DEVICE NEWS

## Consultation on the future regulation of medical devices in the United Kingdom



## Infusion pumps: T34 syringe drivers

### A summary of actions related to problems with T34 syringe drivers



Health Education England, in partnership with NHS England and NHS Improvement, The Academy of Medical Royal Colleges and eLearning for healthcare are publishing new patient safety training materials on the 27th October.

The training materials will be accessed via the [eLearning for healthcare hub](#). The training has five levels, which build on each other, the first two levels *Essentials for patient safety* and *Access to practice* are being made available on the 27th October.

- Level one, *Essentials for patient safety*, is the starting point and all NHS staff, even those in non-patient facing roles are encouraged to complete it.
- Level two, *Access to practice* is intended for those who have an interest in understanding more about patient safety and those who want to go on to access the higher levels of training.

The training has been devised following the publication of the [NHS Patient Safety Strategy](#) which contains a [patient safety syllabus](#). The syllabus sets out a new approach to patient safety emphasising a proactive approach to identifying risks to safe care while also including systems thinking and human factors, all of which has been incorporated into the training.

Levels three to five of the training are expected to be available by the end of March 2022.

Patient Safety Specialists in organisations providing NHS funded care will be supporting their colleagues to engage with and understand the new Level 1 essentials training.



Thank you to all our NAMDET members and supporters for their contributions towards this edition of MDET



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