



# Difficult Airway Society

## NEWSLETTER

*ASM-2014 Report*

*WAMM 2015*

*Pen of the inventor*

*How they do it*

*Book Review*

*DAS Medal Citations*



[www.das.uk.com](http://www.das.uk.com)

**JANUARY 2015**

Every New Year brings hope, opportunities and challenges.

This edition reflects and celebrates the success of the Stratford conference that was an excellent show of organisational skills, educational activities, novel workshops and a unique entertainment programme in Shakespeare's beautiful county.

Congratulations to the winners of the oral and poster presentations and the DAS medal recipients. Dr Tony Wilkes has been selected as the DAS Professor after an independent selection process. He deserves a special mention as the first non-medically qualified recipient of this title.

Details of the selection criteria for 2015 DAS Professorship are now available on our website. Prof Jaideep Pandit is the person to contact regarding applications.

DAS is now getting ready for another land mark in its history. The first ever World Airway Management Meeting (WAMM), featuring all the major airway societies in the world, is being organised in Dublin jointly by the Difficult Airway Society and our American cousins, the Society for Airway Management. Registrations is now open and we hope to see many of you there. WAMM will incorporate our 2015 annual scientific meeting, followed by Torquay in 2016 and London in 2017.

A warm welcome on board to Dr Andy Higgs, the new Treasurer of the Society. We are sure he will continue the good work done by his predecessor as he shares with us his plans for the coming year and beyond.

We have included a couple of clinical articles this time and hope to include more in the future editions. Please send us your feed back and suggestions.

We wish you a very Happy New Year

**Sajay**



**M.Price**  
Cardiff



**A.Sajayan**  
Birmingham

[newsletter@das.uk.com](mailto:newsletter@das.uk.com)

## PRESIDENT'S PAGE

I hope you all have recovered from the highs of DAS 2014, a truly remarkable event of outstanding lectures, workshops and Shakespearean delights. What a fitting finale to a truly remarkable year.



Our membership has shown a healthy growth and it is heartening to share this with you all regarding the steady rise in our trainee and overseas members. The strength of our Society is its members and I would urge you to encourage even more colleagues to join.

I would also take this opportunity to welcome our new Treasurer, Dr Andy Higgs. I am sure he will serve the Society well and we too will benefit from his experience and enthusiasm.

The Society continues to fund airway research via the National Institute of Academic Anaesthesia. Individuals are also invited to apply directly to DAS for small grants which may be carried out in smaller centres.

Last November Mumbai was the venue for the National Airway Conference 2014. This was an outstanding meeting of the Tata Memorial Centre and All India Difficult Airway Association (AIDiAA). I was very honoured to be invited to this conference and represent DAS. This in keeping with our vision of developing closer ties with Asian countries.

I am eagerly looking forward to WAMM 2015 where attendees can network with airway experts from all over the world. Please browse the website and book your place early for a truly momentous event.

Wishing you and your families a wonderful and glorious new year, 2015.



**Jairaj Rangasami**

President DAS

## SECRETARY WRITES.....

Another successful DAS Annual Scientific Meeting!

This was the most well attended DAS meeting ever with 462 registrations. It is a special feeling to be a team leader and see such a project through. I had that feeling on Friday the 14th, as the last of the guests were leaving the Holiday Inn, Stratford-upon-Avon. I was filled with a sense of gratitude to the 120 faculty, to the local organisers and the DAS Committee members who have been so supportive. The AAGBI events team, led by Oliver Kingham, did a great job - yet again. The Holiday Inn team and the professional photographer worked beyond their contracts and became good friends with us.

The feedback from all the workshops has been excellent. The scientific program received great feedback, many commenting that the talks met their educational objectives and were inspiring, educational and entertaining. Those who had the opportunity to explore the ancient town of Stratford had pleasing tales to tell. Some had the fortune of catching a glimpse of HRH Prince Charles whilst he visited the Royal Shakespeare Company, of which he is a president.



The Shakespearian theme worked well, so thanks to Dr. Joy Beamer (pictured far left) for her brilliant work in organising the actors and entertainment. The abstracts (nearly 140) were of high quality, and for the first time, the best of these will be published in the BJA. Congratulations to our ODP colleagues in their first dedicated parallel session.

A very special thanks to the sponsors for their continued support. This year some of our sponsors had to support four workshops simultaneously! A difficult task so very well fulfilled.

It is difficult to express in words the excitement and the ultimate satisfaction of success. Nor is it possible to thank the many individuals by name. Since photographs speak more than words, we have included a few in this edition as a mark of celebration and thanks. I have had several letters of thanks and congratulations, which I shall cherish and preserve! The experience has invigorated and inspired my team from Coventry to work towards similar educational goals in the future. It has given me a strong purpose and direction to achieve higher things for DAS and our speciality.

Our focus now turns towards WAMM-2015, and the many other DAS projects also approaching completion.



I wish you all a very happy 2015!

**Dr.S.Radhakrishna**

Hon Secretary

## TRESURER'S REPORT 2014

The Society's accounts of income and expenditure for the financial year 2013-14 were presented at the Annual Scientific Meeting in Stratford upon Avon on Friday 14th November 2014. The report to the Charity Commission has been submitted, all bills have been paid, no loans have been raised and all DAS accounts have been maintained and are in credit. At the end of the presentation I formally handed over the position of Treasurer to Dr. Andrew Higgs.

Below is a summary of the DAS accounts for 2013-4:

### **Income for 2013-14:**

	<b><u>2014</u></b>	<b><u>2013</u></b>
Membership fees	£41,403	£33,870
Advertising	-	£3,360
DAS Surveys	£700	£600
Cardiff 2012 profit	£30,014	-
Ascot 2013 profit	£21,898	-
Donation*	£2500	-
<b>TOTAL INCOME</b>	<b>£96,515</b>	<b>£37,830</b>

\*Donation from Mrs Violet Robinson

### **Expenditure for 2013-14**

	<b><u>2014</u></b>	<b><u>2013</u></b>
Meeting & travel expenses	£9,632	£10,025
AAGBI Services to Spec. Soc	£9,230	£13,143
DAS newsletter costs	£1,050	£2,401
Extubation guideline documents	-	£1,771
Domain names	£95	£341
Postage, stationary, misc printing	£1,040	£1,999
Electoral reform service	-	£720
iDAS app	-	£1,200
Podcast	-	£210
Paypal charges	£81	£67
Ugandan Trainee	£3000	-
NIAA grant	£14,400	£3,855
Advertising	-	£500
Accountancy fees	£510	£510
<b>Total expenditure</b>	<b>£39,038</b>	<b>£36,742</b>

### **Debtors in 2013-14**

	<b><u>2014</u></b>	<b><u>2013</u></b>
Loan to DAS 2012 Cardiff	Repaid	£5,863
Loan to DAS 2013 Ascot	Repaid	£8,993
Loan to DAS 2014 Coventry	£10,000	£10,000
Loan to WAMM 2015	£20,000	-
Outstanding advertising income	£700	£2,200
Outstanding survey Income	£700	-
	<b>£31,400</b>	<b>£27,056</b>

## Surplus / Deficit for the year 2013-14

	<u>2014</u>	<u>2013</u>
<b><u>Surplus</u></b>	£57,577	£1,127
<b><u>Assets in 2013-14</u></b>		
	<b><u>2014</u></b>	<b><u>2013</u></b>
Total Cash at the bank	£241,532	£225,398
Debtors	£31,400	£27,056
Creditors	(£510)	(£510)
<b>Net current Assets</b>	<b>£272,422</b>	<b>£251,944</b>
“Liquid assets”	£192,917	£137,223

It can be seen that DAS is in a robust position financially but I think we should make a concerted effort to use a proportion of this money rather than letting it simply accumulate year on year. Increasing the frequency or size of the NIAA administered airway research grant and or disbursing multiple small DAS grants of about £1k would be feasible. The Ugandan trainee initiative has now run its course and DAS should look at other ways of improving standards and safety of airway management in the developing world.



**Dr Peter Groom**

Past DAS Treasurer

## **MEET THE NEW DAS TREASURER– DR ANDY HIGGS**

I trained in Liverpool and Melbourne. I am a consultant in anaesthesia and intensive care at Warrington Hospitals in Cheshire where I am immediate past Clinical Director of Anaesthesia & ICM and current Faculty of ICM (FICM) Tutor. My interest in airway management stretches back to my time as a junior passing through the Aintree unit. I am a faculty member of ADAM (Aintree Difficult Airway Management course) which I have part-authored. Whilst interested in all aspects of adult airway management, I have specifically focused on extubation and critical care airway management: I was a member of the DAS Extubation Guideline group and am chair of a multi-disciplinary group (Royal College of Anaesthetists, Intensive Care Society, FICM DAS) in the process of producing a guideline for airway management in the critically ill. I have spoken at several national and international conferences / courses and run a number of workshops in this country and overseas. My spare time is taken-up with 3 teenage children and trying to stay (get!) fit.



# VIRTUAL ENDOSCOPY

Advances in computer technology and more user-friendly software are now part of most aspects of our life. The use of 3D reconstruction of CT and MRI images has been around in other specialties for some years. We presented the use of OsiriX - a free online multidimensional image navigation and display software - for the assessment and management of the difficult airway at the DAS annual meeting 2012 in Cardiff and have since been working with this software. This software allows every anaesthetist to reconstruct 3D images and virtual endoscopy (VE) movie clips on an Apple laptop or computer without investing any money and hardly any extra time. Due to the fly-through technique that creates a video from just a few images and the user friendly interface that allows the virtual camera to move in every direction (even retrograde) by using mouse button or track pad functions. This means that now every anaesthetist can create a virtual endoscopy video of his patient and view the patient's pathology in a three-dimensional way. This only needs the patient's existing CT scan of the head and neck which all of them will have undergone due to their presenting pathology. It is a more familiar way of viewing the patient's airway pathology than a two-dimensional CT scan or a drawing of the nasendoscopy findings. Just like airline pilots we can now have a visual practice run of what we will encounter when we anaesthetize a patient with a difficult airway.

Below we have compared some of our virtual endoscopy videos using OsiriX to the real images taken during an awake fibreoptic intubation or airway assessment in the operating theatre. The representation of the anatomy (normal or abnormal) in the virtual endoscopy we found correlates well and VE is extremely valuable as an additional tool in the management of the difficult airway.

## **Base of tongue cancer**

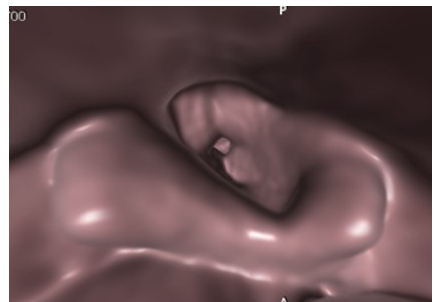
The first example is of a 66 year old gentleman who had previous carcinoma of the tongue treated with radiotherapy to the neck presenting for a neck dissection.

Figure 1 represents the image of the glottis during the awake fibreoptic intubation recorded with an HD camera. Fig 2 is an image of the virtual endoscopy reconstructed from the patients CT scan of the neck. The abnormal shape of the epiglottis is well visualized in the virtual endoscopy images and corresponds well to the images from the HD camera.

Fig 1



Fig 2



## Laryngeal Tumour

This example is of a 46 year old patient who presented with stridor and shortness of breath and orthopnoea due to a supraglottic tumour. During an awake fiberoptic intubation the image of the tumour was obtained with an HD camera [Fig3]. In Figure 4 the obstructing tumour causing a marked glottic narrowing is seen on the virtual endoscopy images.

Fig 3

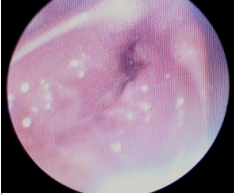
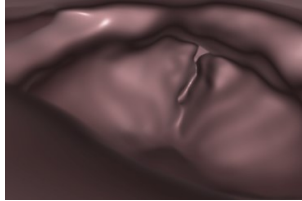


Fig 4

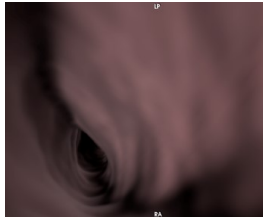


## Retrosternal goitre with tracheal compression

Fig 5



Fig 6



This is a 75 year old female patient presenting for a thyroidectomy.

Figure 5 is an image of the trachea compressed by a retrosternal goitre taken during awake fiberoptic intubation. Figure 6 shows the tracheal compression and deviation

on the reconstructed images from the CT scans.

These examples demonstrate how accurately the 3D virtual endoscopy reconstructions can recreate images of the patient's airway from pre-existing CT scans. As you can see, we are able to create images that are easy to interpret, allowing us to formulate an airway management plan. We find these images much easier to interpret than the CT images, as they are in a form that we are more familiar with. Visualizing the run through videos also prepares us for the awake fiberoptic intubation.

We are using this technology for the patients with complicated airway pathology and have found it very useful as part of the overall airway assessment

**Dr Britta Millhoff and Dr Imran Ahmad**

Guy's & St Thomas' NHS Foundation Trust, London



### **“To be, or not to be: at DAS 2014 Stratford”**

This was the question many of us would have asked ourselves when the advertising flyers for DAS 2014 first came out. Now that the conference is over, we are sure that those who chose ‘to be’ are feeling happy with their decision.

This year’s DAS Annual Scientific Meeting took place in the world class location of Shakespeare’s Stratford, at the Holiday Inn. Situated on the banks of the Avon River, within walking distance of his birthplace. The Local Organising Committee from the University Hospital of Coventry and Warwickshire was led by DAS Honorary Secretary, Dr S.Radhakrishna, ably supported by Dr Cyprian Mendonca.

The location and excellent programme attracted a record number of 462 delegates, from the UK and abroad. The faculty comprised of more than 120 experts from different parts of the world.

#### **Day One: Workshops**

The first day was comprised of a wide variety of workshops organised both at the Holiday Inn and the University Hospital Coventry. The Paediatric airway workshop

was led by the faculty from University Hospital Coventry along with the Sheffield Children’s Hospital. Another major attraction was the Human Cadaveric Workshop, fully booked long before the conference start. This is the first time such a workshop has featured in a DAS conference and was held at the state of the art cadaveric lab at Coventry. There were also traditional sessions on awake fiberoptic intubation, videolaryngoscopy, lung isolation, front of neck access and ORSIM virtual bronchoscopic simulation. By popular demand Michael Kristiansen, from Copenhagen, was invited to teach at the airway ultrasound station. The difficult airway simulation sessions were particularly enjoyed by the delegates

The Chairman of the Stratford District Council, Mr Simon Jackson, was a special guest at the opening welcome reception. He was welcomed by Dr Jairaj Rangasami, President of DAS, who congratulated the local organising committee for such an impressive start to the meeting.

The Councillor, in his witty speech, thanked the organisers for bringing such an important international meeting to Stratford and described the history and the high profile of Stratford upon Avon. Life expectancy in Stratford was higher compared to many other parts of England and he said, ‘this was one good reason at his age why he preferred to stay in Stratford’. After declaring the event open he met with the many trade exhibitors and was keen to learn about their products. He also met the speakers and delegates. Welcome drinks and canapes were provided and the evening was further enriched by the presence of roaming Shakespearean actors. All credit to Dr Joy Beamer for organising the dining and entertainment throughout the meeting.

## **Day Two: Scientific programme**

The scientific programme took place on the second and third day of the meeting. It covered most areas of clinical and academic practice related to the assessment and management of the difficult airway.

Highlight lectures included difficult airway management in the pre-hospital setting by Dr Bob Winter, paediatric practice by Dr Rob Walker, and problems of the super obese by Dr Ashish Sinha. We also learned from Dr David Ball about the tremendous work the Facing Africa team do every year in improving the lives of Noma victims in Africa. Dr Lorraine J. Foley, the Vice President of the Society for Airway Management (SAM) delivered the annual SAM Lecture, sponsored by Storz, on difficult airway notification and patient documentation. A robust discussion followed on difficult airway follow up and the alert card which DAS intends to introduce this year.

The audience enjoyed the presentation of veterinary anaesthetist Dr Jonathan Cracknel, who proved through more than 200 unique slides that airway management in animals is equally challenging. Professors Tim Cook and Dr Steve Yentis provided a valuable update on the recent trends in publishing research on the airway.

## **Annual Dinner, Entertainment and DAS Medal**

The Shakespearean theme continued at the Gala Dinner, that took place in Stratford Art House. Here classic scenes from the Bard continued through the night.

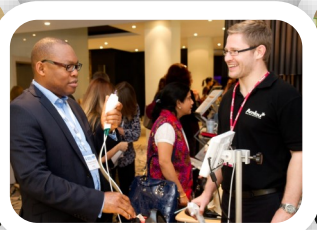
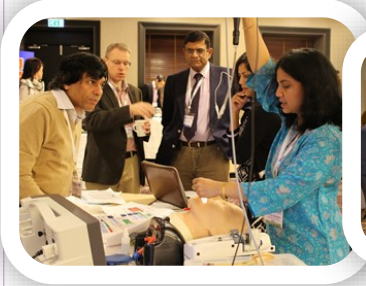
We also had the privilege to meet some famous names in anaesthesia like Drs Ralph Vaughan and Chandy Verghese, along with all the eminent speakers and dignitaries. The DAS Medals were presented to Prof Mansukh Popat who needs no introduction to anaesthetists, and Mr Martin Bromley who is prominent in making human factors a part of anaesthesia and airway training. Mr Chris Lawrence who leads the 'Facing Africa' charity was presented with DAS memento in respect of his exemplary work Ethiopia.

## **Day Three: Scientific Programme:**

The DAS Annual General Meeting took place on the Friday morning. The Hon Secretary, Dr Radhakrishna, in his report enumerated a long list of achievements and activities. The outgoing Treasurer, Dr Peter Groom, informed us that DAS is in a sound financial position. It was heartening to know that DAS will be encouraging more research by implementing small project grants. The prestigious DAS Professorship was awarded to Dr Tony Wilkes. This was the first time this title has been awarded to a non medically qualified scientist.

Interactive presentations on the new DAS intubation guidelines and the OAA/ DAS joint guidelines due for release in early 2015 followed. Prof Jaideep Pandit then discussed the NAP-5 report in relation to airway management.

# DAS 2014 IN PICTURES



*Dr Mark Porter*



*Dr William H Griffiths*



*Dr J Cracknell*



*Prof Steve Yentis*



*Dr Lorraine Foley*



*Dr Richard Levitan*



*Prof J J Pandit*



*Prof Tim Cook*



*Dr M Kristiansen*



*Prof J M Huitnik & Dr Ashish Sinha*

Griffiths (Immediate Past President of AAGBI) and host, Dr S Radhakrishna. Both speakers presented their views with much enthusiasm, humour and vigour. Dr Radhakrishna by his convincing arguments succeeded in swinging the audience vote and winning the debate by a considerable margin.

The free paper presentations were in the afternoon, the quality of the abstracts was excellent. The parallel ODP session was another first for DAS. As our co-pilots, it was quite appropriate that a special session was part of the ASM. The full session was attended by both ODPs and many interested anaesthetists.

Dr Andy Higgs presented an overview of airway management challenges in the intensive care unit. The last session was mainly trainee orientated and touched upon the College curriculum for airway training. A presentation by Dr Mendonca on the challenges of delivering good quality training included how to set up a successful 'Airway Lab'. Two previous local airway fellows presented the trainees' point of view with their experiences. The conference was closed with a selection of case based discussions led by Dr Peeyush Kumar, Prof Popat and Prof Cook.

#### **Oral and poster presentations and Ralph-Vaughan Cup:**

The abstract submissions went smoothly attracting a record number. In all a 136 posters were presented at the meeting. Dr Hodzovic and Dr Badiger shared the first prize and prestigious Ralph Vaughan Cup. Their talks both on exciting new techniques which may change the shape of difficult airway management in the future.

In conclusion, this year's meeting was a real success and the Local Organising Committee should be proud of their great achievement and teamwork.

"All's well that ends well"

**Dr Narcis Ungureanu**

**Dr A Sajayan**

University Hospital, Coventry

### Oral to Nasal Endotracheal tube exchange using both video and flexible laryngoscopes

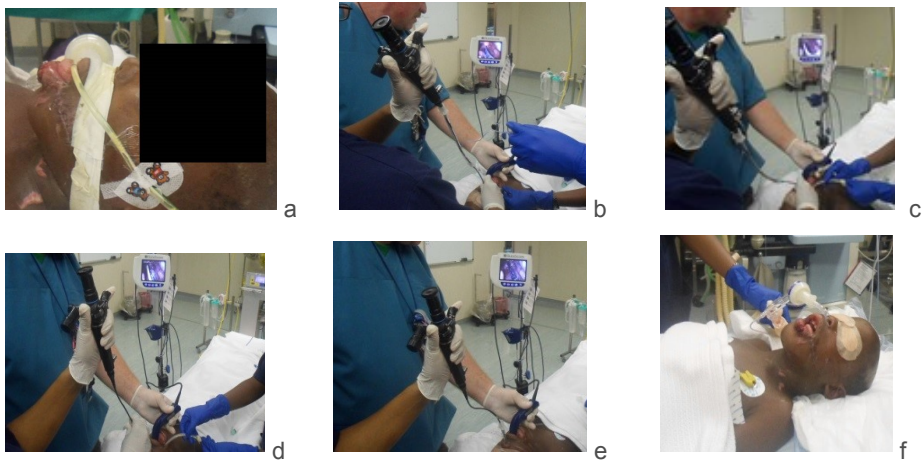
The paediatric airway is challenging due to the small diameter and increased collapsibility compared with the adult airway. Difficulty is exacerbated by the lack of equipment for paediatric airway management. The case report below illustrates these challenges and provide potential solutions.

Consent for publication of anonymised clinical photographs was obtained from the University of KwaZulu-Natal Biomedical Research Ethics Committee. Verbal consent was also obtained from the mother.

#### Case report

A 7 year old girl suffered a pedestrian vehicle accident with a closed head injury and significant facial trauma including fractures of the mandible and maxilla. After 4 days in the trauma ICU the patient's level of consciousness was improving and a decision was made to fix her facial fractures prior to extubation.

The maxillofacial surgeons requested an exchange of the oral for a nasal tube. There was concern from the anaesthetists concerned regarding loss of the airway during the exchange process. The procedure that was followed is shown in figure 1.



**Panel a** shows the reasons for concern about loss of the airway during exchange, particularly the swollen tongue protruding beyond the teeth.

**Panel b** shows the first two steps in the exchange process. The larynx with the existing oral ETT was revealed by video laryngoscopy using a Glidescope. A flexible intubating scope (FIS) was then passed via the nose until seen on the Glidescope and the ETT was seen on the FIS.

**Panel c** shows a paediatric airway exchange catheter (AEC) (Frova™) being advanced through the oral ETT.

**Panel d** shows the oral ETT withdrawn with both the AEC and the FIS in the trachea.

**Panel e** shows the nasal ETT in the trachea on the Glidescope screen. Tracheal rings could be seen via the FIS eyepiece.

The operation proceeded uneventfully and the patient returned to ICU with the nasal ETT left in-situ. Mental status improved and the patient could be extubated after 3 days, discharged to the ward after 2 further days and home 10 days after the operation.

## **Discussion**

ETT exchange is usually a simple matter of using an AEC so that the airway is always maintained by an airway device via which oxygenation can be maintained.

However, exchanging an oral for a nasal ETT presents the potential dangerous loss of the airway device when the oral device is removed, before the nasal device is in place.

The case under discussion illustrates the usefulness of combining both a video laryngoscope and a FIS. The narrow field of view provided by the FIS may limit usefulness in cases of upper airway swelling where normal anatomical landmarks may be obscured. The ability for the video laryngoscopist to guide the FIS operator was of great benefit in this case.

The paediatric airway may be too narrow to allow passage of both the FIS and exchange catheter as was possible in this case but having both devices on the video screen minimises the risk of airway loss as the AEC is withdrawn and the FIS advanced.

The FIS has the additional advantage of allowing accurate placement of the ETT in the mid-trachea.



### **R Eric Hodgson**

Dept. of Anesthesia, Inkosi Albert Luthuli Central Hospital, Mayville and  
Dept. of Anesthesia, Critical Care and Pain Management, Nelson R Mandela  
School of Medicine, University of KwaZulu-Natal, Umbilo, eThekweni-Durban,  
KwaZulu-Natal, South Africa



## MACEWEN MEDAL CITATION-PROF MANSUKH POPAT



Mansukh was born in Uganda and went to Baroda Medical College in India. He came to the UK in 1981 and worked as an SHO in anaesthesia in Pontefract and Manchester and a registrar in Portsmouth. He was a senior registrar in Oxford and Northampton during which he spent a year in Dallas and in 1992, he was appointed as a consultant anaesthetist in Oxford.

I first met Mansukh in 1999 through obstetric anaesthesia when he was on the OAA committee. However, I soon realized that his passion was truly in airway management.

What distinguishes Mansukh is his dedication to teaching airway skills, and in particular fiberoptic skills having accomplished more than 900 awake fiberoptic intubations. In 1998 he started the Oxford fiberoptic training programme, and to date, 21 fellows have completed six monthly modules. In 1999 he started the Oxford Difficult Airway Workshops, and his model of running airway workshops has been followed by many hospitals in the UK including our own in Leicester. He invented the Oxford Fiberoptic Training Box, which enables anaesthetists to learn manual dexterity in handling flexible fiberoscopes, and it is used at many airway workshops in the UK. He is a founder member and previous chairman of the Oxford

Region Airway Group (ORAG). This group assures service, training (through extensive web-based teaching videos and slides) and collaborative research in airway management across the Oxford Region. In 2004, he introduced 'Teaching the Trainers' course followed in 2005 by the Oxford Paediatric Difficult Airway Workshop. He has provided advice to anaesthetists on how to set up training workshops in airway management in India, South Africa, Nepal, Russia and Hungary.

Mansukh has been an active member of the Difficult Airway Society (DAS). In 2002, he was appointed President of DAS and during his leadership, DAS membership increased to 1,300. I was fortunate to work with him as secretary of DAS during his term as president and benefited immensely from his wisdom. Mansukh has been involved in all the current DAS airway guidelines.

He co-authored the DAS unanticipated difficult airway guidelines, chaired and published the first ever national guidelines on safe extubation and was a member of the paediatric difficult airway guidelines. He is currently involved in the OAA/DAS obstetric difficult airway guidelines. He was awarded the DAS Professorship (2013) in recognition of clinical excellence, significant publication record and international recognition in the field of airway management. Mansukh has published extensively with over 40 publications in peer reviewed journals. Two of his publications (i) The Difficult Airway Society guidelines for the management of unanticipated difficult airway (Henderson et al 2004) and (ii) The Difficult Airway Society guidelines for the management of tracheal extubation (Popat et al 2012) were awarded certificates for 'one of the top ten most read original articles' in Anaesthesia, with the unanticipated guidelines paper being downloaded more than 8,000 times. He has written chapters in several books, the latest being 'The Difficult Airway' chapter with Robin Russell in the fifth edition of Chestnut's Obstetric Anaesthesia textbook. He is the sole author of the book 'Practical Fiberoptic Intubation'. He is editor/author of 'Difficult Airway Management' and a unique feature of this book is the website link, which provides readers with interactive learning by watching slides/ videos of airway techniques. It was awarded 1st prize BMA Medical Books (Anaesthesia section) in 2010. He was co-author/ editor of 'Understanding Anaesthesia', a book which is recommended reading on national Operating Department Practitioner courses. He was co-author of the chapter 'Fiberoptic Intubation' - in Core Topics in Airway Management and of two chapters in the NAP4 report.

In 2009, he was elected as a member of Council of Association of Anaesthetists of Great Britain and Ireland (AAGBI) and served on the safety/standards and research committees, and the editorial board of Anaesthesia. In the last 12 years, he was an invited speaker at 35 national and 5 international meetings.

Despite his great achievements, Mansukh is an extremely approachable person and carries not the slightest hint of arrogance. He has been a great support for many trainees and colleagues and it is truly a pleasure for the Difficult Airway Society to confer the Macewen medal to him for his outstanding contribution to promoting safe airway management through teaching others.



**Dr Mary Mushambi**



## MACEWEN MEDAL CITATION-MR MARTIN BROMILEY

Mr. Martin Bromiley no longer needs a formal introduction to anyone who is familiar with human safety and human factors.

Martin Bromiley's life has parallels to James Styner's life. In February 1972, James Styner an orthopaedic surgeon crashed his twin engine aircraft, resulting in the tragic death of his wife and serious injuries to his 4 children. The treatment he and his injured children received in a local hospital was so inadequate, he decided to change things for the better. He and his colleagues launched the ATLS in 1978 (Advanced Trauma and Life Support) that has revolutionised care of trauma patients and is saving several thousand lives across the world every year. It is considered the gold standard of trauma care.



It was not a plane crash, but an anaesthetic related event that resulted in the tragic loss of Elaine Bromiley in March 2005. Her Husband, Martin Bromiley, however is an experienced airline pilot and an airplane acrobatic instructor. He reacted to this devastating loss not in anger, not through blame but by calm participation in the decision making process with the other doctors caring for his wife. He had to make the difficult decision of switching off his wife's life support machine. He asked Professor Mike Harmer to conduct an investigation, to understand what had transpired, that resulted in the loss of his wife. Bromiley insisted that Professor Harmer's report be made public, "So that others may learn, and even more may live". Martin Bromiley, from that moment, set out to change the way medicine is practiced in the UK- by using his knowledge of Plane crashes. He founded the Clinical Human Factors Group (CHFG) in 2007 based on the Royal Aeronautical Society Human Factors Group. He is the current Chairman of CHFG, and has brought invaluable human factors lessons to clinical practice. Between flying commitments, he promotes safety in healthcare by engaging with managers, doctors, students and nurses. Due to his ongoing commitment and dedication, healthcare in UK has a new dimension to it- Human factors. This has exposed human limitations and has introduced team working, situation awareness and a culture of openness. This change has made UK, a safer place for delivering healthcare. The work continues and in his own words "it is a duty", echoing the sentiments of Charles de Gaulle who during the most difficult phase of World War II said "Events impose a sacred duty, I shall not fail to carry it out"

Difficult Airway Society has incorporated human factors into its teaching and practice and has been pioneering change in the way difficult airway is managed in the country by conducting human factors courses.

In recognition of his immense contribution to patient safety and to the healthcare industry in general, Difficult Airway society is delighted to present Martin Bromiley the prestigious Macewen Medal.

**Dr.S.Radhakrishna**

## CITATION-FACING AFRICA FOUNDERS



DAS honours a great husband and wife team for their lifetime contribution

Noma (cancrum oris) is a devastating form of facial gangrene afflicting young children, mainly in sub-Saharan Africa; probably 80% die. Survivors suffer facial mutilation with high grades of trismus. The World Health Organisation estimates that Noma afflicts more than 140,000 people each year. Since less than 10% of cases are reported, this may be a gross underestimate.

Facing Africa is a UK-based charity, founded by Chris and Terry Lawrence. The charity provides free reconstructive surgery for Noma survivors in Ethiopia. Despite neither of the Lawrences having medical training, Chris was moved to form the charity with his wife after seeing a German TV documentary on the disease. Through enormous enthusiasm and motivation, Facing Africa recruits teams of nurses, surgeons and anaesthetists, all volunteers, to visit Ethiopia for two missions each year. Each anaesthetic team provides world-class airway management during every visit. Since 2007, Facing Africa has raised over £4 million for this cause and funded over 15 missions to Ethiopia. Nearly all patients need advanced difficult airway management to allow surgery; about 600 patients have been safely treated.

Most patients require fibre optics or video laryngoscopy and sometimes, uncommon techniques such as retrograde intubation or cricothyroidotomy for airway control. All anaesthetics have emphasis on contingency planning, both for tracheal intubation and extubation. Standards match or exceed those found anywhere in the world and to date; all have been safe and successful. This is especially commendable given that this has been achieved in the context of anaesthetic provision in the developing world. All drugs, disposables, equipment for surgery and anaesthesia are brought to Ethiopia. Two operating theatres and a ward are rented, travel and accommodation is arranged. Additionally, prospective patients are brought to a Leonard Cheshire Home outside Addis, housed, fed and prepared; all this is freely given. After surgery, patients return to the Home to recover. This is an enormous logistical, political, financial and diplomatic challenge, achieved twice a year since 2007.

All anaesthetists are enriched by their experiences, and the skills used are transferable to UK practice. Collaboration with the Royal College of Anaesthetists resulted in the Facing Africa Anaesthetic Fellowship, allowing a senior trainee to join a mission to learn these airway skills. Papers and presentations show the intensity of airway management; for example, the recent case series published by Coupe et al (*Anesth Analg* 2013; 117: 210-7) Facing Africa anaesthetists also teach Ethiopian trainees safe approaches to all forms of airway management, not just the difficult cases.

Through Facing Africa, Chris and Terry Lawrence have given anaesthetists great opportunities for difficult airway management for hundreds of patients. Facing Africa is at the forefront of difficult airway management and is now the only organisation anywhere providing this comprehensive care: "A new face, a new life, a new hope", to quote Chris.

(Nominated by David Ball, on behalf of the Facing Africa Anaesthetists)

## ODP SESSION AT THE ASM

For the first time in the history of DAS, operating department practitioners (ODPs) were given a platform at an Annual Scientific Meeting.

This session was organised and chaired by Dr Sudheer Medakkar who has long been an advocate of empowering ODPs to learn advanced skills. The session started with a brief introduction by Dr Medakkar who stated that ODPs and anaesthetic nurses are valued and appreciated colleagues. The passion to integrate ODPs within the DAS community was obvious by the presence of many high profile DAS members within this packed session.

Ms Judith O'Grady's (Coventry) presentation on 'How to set up a difficult airway trolley' was delivered expertly. I'm sure many will take her ideas on standardising airway trolleys back to their own places of work. My presentation: 'Co-PILOT – Levelling the cockpit gradient' seemed to interest quite a few of the delegates who stated that they would like to adopt the Co-PILOT protocol within their own hospitals. Miss Tabussam Choudary's (Slough) talk, 'X-Factor in airway management', highlighted the value of simulation training in patient safety.

Mr James Huntington's (Torbay) 'off the cuff' talk on 'ODP training at present and in the future' delighted the delegates. He mixed professionalism with humour to deliver a most interesting and emotive talk. These presentations proved very successful and were followed by a lively and constructive debate.

Now we have an open forum for ODPs on the DAS website (accessed via membership log-in) where we can share ideas and exchange views with all DAS members. Please encourage your ODP and anaesthetic nurse colleagues to join DAS. It's free and the benefits are huge.

### **David Howarth**

RODP, Ysbyty Gwynedd, Bangor, Betsi Cadwaladr University Health Board

# DAS –ASM WINNERS

## ORAL PRESENTATIONS



### **Joint First Prize and Winners of Ralph-Vaughan Cup**

**Dr S Badiger** - Oxygen delivery during awake fiberoptic intubation: A case series using high flow nasal cannula

**Dr I Hodzovic** - A study of awake video-laryngoscope assisted intubation in patients with peri-glottic tumor



### **Second Prize**

**Dr V Mistry** - The badge for assessment of difficult grade airway examination (BADGE) tool for airway assessment

## POSTER PRESENTATIONS



### **First Prize**

**Dr N Tweed:** Use of high flow nasal oxygen to facilitate awake fibre-optic intubation in hypoxic respiratory failure

### **Second Prize**

**Dr J Keegan :** Airway alerts - Time to modernise how anaesthetists in the UK disseminate difficult airway information

### **Third Prize**

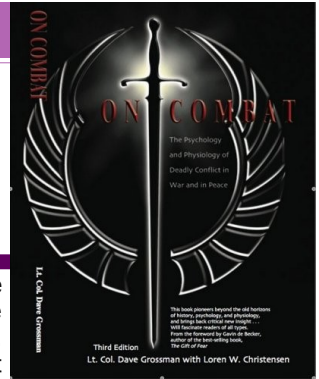
**Prof T Cook** - National Survey of Anaesthetic Departmental Responses to NAP 4

### On Combat: The Psychology and Physiology in Deadly Conflict in War and Peace

**Author:** Lt. Col. Dave Grossman

**Publisher:** PPCT Research Publications

Continuing the prominent theme of the DAS- 2014 ASM we have chosen to review a book extensively referred to by the American emergency medicine physician, Prof. Richard Levitan, when he spoke on the psychology of airway management at Stratford-upon-Avon.



This book, first published in 2004, is a part scientific review of the body's physiological and psychological responses to extreme combat stress and its aftermath. It is a standard text in American military and police training. In anaesthesia we often refer to the aviation industry as a touchstone in the understanding of human factors, often to the exclusion of other occupations that could teach us valuable lessons. Theatre and critical care environment are much more chaotic, with conflicting aims and the human response in sickness is much more unpredictable than an airliner.

The initial chapter deals with the body's response to the stress associated with a threat to self. The significant difference in combat being the perceived risk is to oneself - not your patient. It uses an increasing heart rate scale related to the response to fear, independent of physical exertion. As the level of fear increases a state is reached, Code Black, where significant perceptual changes occur. These perceptual changes are of interest in that they may explain why in scenarios such as a patient rapidly deteriorating despite our actions can lead to a loss of situational awareness. These perceptual manifestations include tunnel -vision, slow motion time, dissociation from place, intrusive thoughts and elements of memory distortion.

Yet again the case is made for teaching with simulation, the more realistic the better. The author makes the case, like many trainers, that you become what you practice and equates it to stress acclimatization. If a police officer is taught to fire off two shots and reholster then they will do so even if they continue to be fired upon, potentially with tragic consequences. A small number of practiced responses minimise the amount of cognitive processing later required under stress. This could have important implications in the formulation of airway guidelines. The simpler, more didactic and uniform between patient groups the more likely they are to be enacted upon.

There are many other interesting insights particularly regarding the issue of debriefing and post traumatic stress disorder, both of which may have relevance to our profession. The impact of highly immersive multi-scenario computer combat games in improving shooting accuracy and battle field awareness is examined. What future potential there is in using highly interactive computer generated scenarios in medicine remains an interesting question?

A book only for the few due to its exploration on themes of extreme violence, but within there is some significant parallels to learn from.

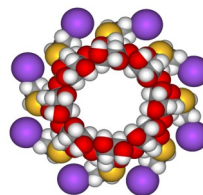
**Dr MARK PRICE**

### Invention of the concept behind Sugammadex (Bridion®)



**Anton Bom**

Senior Research Fellow,  
Organon Laboratories (retired)



Soon after the introduction of neuromuscular blocking agents in clinical anaesthesia, it was realised that recovery from non-depolarising block was slow. Fortunately, administration of neostigmine proved to speed up recovery. However, acetylcholinesterase inhibitors have their limitations. They are ineffective against profound block and have muscarinic side effects. An ideal reversal agent should actively decrease the amount of relaxant, but this approach was considered to be impossible.

In 1997 the question arose whether rocuronium had an effect on smooth muscle neurotransmission. Since I was working on a project using smooth muscle preparations, my colleagues approached me with the request to screen rocuronium.

Rocuronium is soluble in acidic solutions, but these solutions cannot be used for smooth muscle studies. Several solvents were tested, but they proved to be unsatisfactory.

However, I remembered an article about the use of cyclodextrins to solubilise steroidal molecules. Cyclodextrins are rigid rings composed of sugar units with a lipophilic cavity and a hydrophilic exterior which makes cyclodextrins water-soluble.

Lipophilic steroidal molecules like to enter the cavity and form a complex, thereby enhancing the solubility. When the mixture is injected, the steroidal molecule will leak out of the complex, allowing it to exert its biological action. Therefore the cyclodextrin molecule can be considered to be a “delivery truck”.

I speculated that the steroidal part of rocuronium would form a complex with the cyclodextrin. This proved to be the case. The rocuronium-cyclodextrin solution was tested on the smooth muscle preparations and did not prove to have an effect on neurotransmission.

The observation that rocuronium forms complexes with cyclodextrins provided me with an idea: can the “delivery truck” be used as a “removal truck”?

In other words: can cyclodextrins form high affinity complexes with rocuronium, thereby preventing the pharmacological actions of rocuronium? To test this hypothesis, experiments were performed using high doses of commercially available cyclodextrins and reversal of neuromuscular block was observed. Since rocuronium has a positively charged nitrogen atom in its structure, I speculated that addition of side-chains to the cyclodextrin, with a negative charge at each end, might increase the affinity.

A small team of pharmacologists and chemists was created and a large number of commercially available cyclodextrins were tested. This provided the team with structure-activity relationships, allowing the chemists to create cyclodextrin derivatives with improved affinity. This eventually led to the creation of sugammadex. Further studies demonstrated that sugammadex could also reverse the effects of vecuronium and pancuronium and their metabolites, but that sugammadex was ineffective against non-steroidal blockers.

After extensive toxicology and safety pharmacology studies, clinical trials were started.

In 2008 sugammadex was approved for clinical use in Europe. However, the trials were focussed upon obtaining regulatory approval. Further studies by clinical anaesthetists are required to obtain a better understanding about this new drug and its use in specific patient populations.

## References

More than 500 articles relating to sugammadex can be found at: <http://www.ncbi.nlm.nih.gov/pubmed>

Poster abstracts can be found at <http://www.asaabstracts.com> and in the annual conference supplements of the European Journal of Anaesthesiology.



## DAS PROFESSOR 2015– DR TONY WILKES

Tony Wilkes was awarded the 2015 DAS Professor of Anaesthesia and Airway Management at the DAS meeting in Stratford in November, 2014. He spent 25 years working in the Department of Anaesthetics in Cardiff, a university position within the medical school.

However, Tony is not a medic: his first degree was in Physics with Astrophysics. He joined a small team in the Department evaluating anaesthetic equipment for the UK Government in 1988, specialising in humidifiers, heat and moisture exchangers, monitors and, later, anaesthetic workstations and breathing system filters. Reports were published in the Medicines and Healthcare products Regulatory Agency's (MHRA) *Evaluation* series. Almost immediately, Tony started participating in the development of British, European and International standards for anaesthetic equipment. Tony completed a PhD on breathing system filters in 2004, the same year that Government funding for the evaluation programme ceased.

By that time, Tony was a Senior Research Fellow. Staying in the Department, he helped create a rolling programme of research for trainee anaesthetists which involved evaluation and assessment of anaesthetic equipment, including airway devices. Tony has contributed massively to the research experience of many Cardiff trainees. Funding was received from the Centre for Evidence-based Purchasing to carry out assessments on laryngeal masks and laryngoscopes: reports on these were published in 2008 and 2009, respectively. This seemed to be the ideal marriage of devices requiring assessment (evidence of effectiveness is available on only very few devices) and trainees needing to gain experience of research techniques (protocol development, ethics submission, carrying out the study, analysis, presentation and publication). An editorial in 2008 outlined a way forward to evaluate airway devices. This was then developed further with the DAS 'ADEPT' proposal published in 2011. However, much more still needs to be done to enable purchasers to be able to make an informed, evidence-based choice of equipment. Unfortunately, this is even more difficult now in an era of portfolio research, funding restrictions and the reduction in time to participate in research projects.

Involvement of industry in this process is key and Tony regularly attends meetings of BAREMA, the trade association for manufacturers of anaesthetic and respiratory equipment. He started working for CEN, the European Standards Committee, in 2009 as a consultant on medical devices.

Tony was awarded the Pask Certificate of Honour by the AAGBI in 2007. He continued to work in the Department of Anaesthetics, in Cardiff, until the end of 2013, by which time he was a Senior Lecturer, but he now works as an independent consultant on medical devices, standards and statistics.

Following the award of DAS Professor, Tony looks forward to becoming increasingly involved with the Difficult Airway Society.

***Mark Price, in collaboration with Prof Tony Wilkes***







# WORLD AIRWAY MANAGEMENT MEETING (WAMM) 2015



Next year is all about WAMM- the first ever World Airway Management Meeting. Only a year away so put the dates in your diary, the 12<sup>th</sup> -14<sup>th</sup> November 2015

WAMM is a joint meeting of two of the largest airway societies, DAS & SAM, in the world. Both societies will be celebrating their 20<sup>th</sup> anniversaries so it will be a special occasion. In addition many other societies including the European Airway Management Society, Australian Special Interest Group and Indian Airway Society, to mention just a few, are signing up as affiliates. Plus interest from our surgical and emergency medicine colleagues

The organising committee are working very hard and hope to bring you an amazing programme including key note speakers of worldwide repute, simulation and airway workshops .In addition there will be a novel opportunity to meet experts, in a variety of areas, in smaller breakfast sessions. There have been amazing innovations in our field in the past 20 years and many of the people central to this have agreed to attend and share their experiences. Our partners in industry, who have supported these advances, are already signing up and helping to make this a world class event.

Dublin was chosen as the host city. It is a wonderful place, recently voted as one of the 'Top 10' cities to visit by travel publishers Lonely Planet. The Convention Centre in Dublin is an excellent venue and will be a fantastic backdrop for this very special event. No visit to Dublin would be complete without a unique social programme - visits to both the Guinness Storehouse and the Old Jameson Distillery are planned and many surprises too.....



Booking is now open, so go to [www.wamm2015.com](http://www.wamm2015.com) to find out more and take advantage of early bird booking discounts. Plus get your audits, reviews and research completed by August 2015 to submit for the many presentation and poster prizes available. Details are on the website. So please join us to celebrate where airway management has come over the past 20 years and look ahead to an exciting future of innovations and developments in this key area of our profession.

We promise you the best and largest airway meeting you have yet to attend and will give you a 'Cead Mile Failte' when you join us in Dublin!

Mile Buiochas

**Dr Ellen O' Sullivan,**  
Immediate Past President DAS and Co - Chair WAMM



# WAMM

WORLD AIRWAY MANAGEMENT MEETING

DUBLIN 2015  
[www.wamm2015.com](http://www.wamm2015.com)



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12-14 NOVEMBER

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# DUBLIN

TO MARK THE 20<sup>TH</sup> ANNIVERSARY  
OF THE DIFFICULT AIRWAY SOCIETY  
& THE SOCIETY FOR AIRWAY MANAGEMENT

Booking is now open for next year's biggest world airway management meeting in Dublin. This is a joint meeting of the Difficult Airway Society & The Society for Airway Management.

- Scientific programme • Workshops • Industry exhibition
  - Poster competition • Keynote speakers • Social events
- Plus, much much more!

**BOOK ONLINE** [www.wamm2015.com](http://www.wamm2015.com)

JOINT MEETING OF THE DIFFICULT AIRWAY SOCIETY  
& THE SOCIETY FOR AIRWAY MANAGEMENT



# In the next edition.....

- . From the pen of the inventor of Glidescope
- . Book review
- . WAMM 2015

## DAS Guidelines for unanticipated difficult intubation-Update

Just to reassure the membership, work continues apace on the forthcoming guidelines. Shortly all the membership will receive an electronic survey to help us reflect your views in their creation. Please keep checking the DAS website for updates; in the meantime please do not hesitate to contact the group via [Intubation@das.com.uk](mailto:Intubation@das.com.uk).

Dr Chris Frerk

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