Editorial

The wide spectrum of delirium: “from bench to health care policy makers”

The European Delirium Association celebrated this year its 10th anniversary with a joint meeting with the British Geriatric Society in London. The meeting covered several areas of delirium ranging from the bench research to health care policy makers providing the road map for the future work.

Understanding the pathophysiology of delirium is essential to provide further insights on the phenomenology but also for the development of pharmacological prevention and treatment interventions. Dr Colm Cunningham – the key note speaker of the meeting – in the last several years has widely investigated, in animal models, the neuroinflammatory hypothesis of delirium in relationship with dementia. His seminal work has significantly increased our knowledge on the mechanisms subtending the development of delirium, especially in the context of neurodegeneration. Future work is still required to establish specific targets for pharmacological treatment of delirium in particular in relationship to the psychomotor subtypes and the presence of dementia.

Dementia is well known to be a relevant risk factor for delirium and delirium itself is an important risk factor for worsening dementia. The high prevalence of dementia and the projected increased in the future years along with the high prevalence of delirium in this population requires a specific focus of the European Delirium Association and the American Delirium Society on this topic in collaboration with other scientific societies. The assessment of delirium in dementia patients is a well-known challenge both in clinical practice and research studies. During the meeting there were specific discussions on the main challenges including testing of inattention and the different stages and subtypes of dementia. However, to date we still lack reference standards to test inattention and also what type of inattention should be tested in relationship to the severity of dementia and subtypes of dementia (e.g. Alzheimer’s Dementia, Lewy Body Dementia, Vascular Dementia) underlying the need of future research.

Another important challenge is the delirium diagnosis in critically ill patients in particular in relationship to the level of arousal and the presence of acquired critical illness polyneuropathy and myopathy. To date all health care providers can rely on validated tools such as the Confusion Assessment Method for the ICU and the Intensive Care Delirium Screening Checklist to detect delirium. New research is being developed to test the application of electroencephalography and the analysis of eye movements for research studies and at the bedside to further increase our ability to detect delirium in this population.

An emerging area is represented by the study of delirium in children of different ages. Researches are testing new tools to diagnose delirium, which can be used by different health care providers even in pre-scholar children. The availability of these new tools will allow us to design a longitudinal study to clarify the association between delirium and outcomes in this critical population. A specific interest is also the experience of delirium. Few studies have been conducted in adult patients exploring the memories and the stress related to the delirium experience showing that most of the patients remember the delirium episode as a stressful experience. If this is critical for adult patients it is even more important in children for its possible implications on the development of post-traumatic stress disorder in a young age.
Interestingly, for the first time, there was a round table during the meeting involving not only clinicians but also family members reporting directly on their experience, further underlying the need to focus on patients’ and families’ feelings. In particular, Nicci Gerard, a famous British novelist and journalist, described her catastrophic experience with her father who experienced delirium during a hospitalization. She reported feelings of loneliness and powerlessness. Asking patients about their experience during and after delirium resolution should become part of our daily clinical practice. As health care providers we should learn that this is vital and we can really help patients and family members understanding what happened and reduce the burden related to the stress. As Nicci Gerard reported “Knowledge takes away fear and loneliness.”

A final and important key point is related to the need to prompt health policy makers about delirium and its implications. Delirium care should be a marker of the health care system not only in the hospital but across settings providing what Prof Martine Prince defined “care without borders”.

We are looking forward to the 11th meeting of the European Delirium Association, which will be held on 3-4 November 2016 in Vilamoura, Portugal. We will dedicate the upcoming year and the next years working on new strategies to further improve the care of patients with delirium.

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Contents

Clarifying the Confusion Surrounding Drug-Associated Delirium in the ICU, John W. Devlin 3
A Brief Report into Post Pump Delirium, its effects, and causes from a patient’s perspective, Leslie Fornear 5
American Delirium Society: Summary of Recent Activity 9
Report on the American Delirium Society meeting 2015 EDA 11
Obituary: Dr Maeve Leonard (Ryan) 12
Advance Notice 13
ICU Delirium, Dr Svetlana Tattum and Naomi Brice RN 14
Guidelines for Authors 15
Clarifying the Confusion Surrounding Drug-Associated Delirium in the ICU (Website posting)

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Delirium occurs frequently in the critically ill and may adversely affect both short and long-term outcomes. Treatment options for delirium in the ICU remain limited. Therefore, clinicians should focus on delirium prevention and risk reduction strategies. While predisposing (e.g., older age) and many precipitating (e.g., severity of illness) delirium risk factors are not reversible, other precipitating factors, such as patient immobility, aspects of the ICU environment (e.g., noise) and administered medications, may be modifiable.

The list of medications that have been reported to cause delirium in the critically ill is long. This is not surprising given the large number of medications administered in the ICU setting, the frequent presence of end-organ dysfunction that may influence the pharmacodynamic response observed, the presence of conditions such as sepsis or stroke that may impair blood-brain barrier integrity, and the fact that use of medications having psychoactive properties that may lead to delirium-like symptoms is frequent. Many of the proposed pathways for drug-induced delirium overlap with those for delirium itself (e.g., anticholinergic activity, gabaminergic activity) although few are confirmed.

Ascribing delirium at the ICU bedside solely to the use of a particular medication is potentially fraught with error. The causes for delirium in the ICU are usually multifactorial and seldom obvious, the temporal relationship between medication initiation and delirium onset remains poorly characterized and medications (e.g., benzodiazepines) that may be used to treat delirium-associated agitation may also influence both delirium recognition and duration.

The drug-associated delirium literature consists primarily of case series and uncontrolled cohort studies whose design makes it nearly impossible to determine whether a particular medication is an independent risk factor for delirium. One recent systematic review evaluating 80 different potential ICU delirium risk factors was forced to exclude 1,593 (98%) of 1,626 published ICU delirium risk factor studies given that neither a randomized controlled design nor a multivariable approach was used. Moreover, given the fluctuating nature of coma, disease severity, and delirium over the course of the ICU, coupled with a number of important baseline and daily risk factors for its occurrence; it is important to use a competing risk Markov model with time-dependent multinomial methods when evaluating the daily risk from a non-delirium to delirium state. Data from investigations that incorporate these advanced modelling techniques to evaluate the odds of transitioning on any particular ICU day from an “awake and no delirium state” to “delirium” now help inform delirium-associated risks for benzodiazepines, corticosteroids and medication(s) with anticholinergic effects.

A landmark 2006 study 198 mechanically ventilated adults found that lorazepam administration was an independent risk factor for a daily transition to delirium [OR = 1.2 (95% CI, 1.1 to 1.4, p = 0.003)]. A more recent analysis of 1,112 critically ill adults found that midazolam administration was an independent risk factor for a daily transition to delirium [OR = 1.04 (95% CI, 1.02 to 1.05), p < 0.001 per every 5mg per day of midazolam administered]. This latter study therefore suggests that for every 5mg of midazolam that is administered to a patient who is awake and without delirium, there is a 4% chance that this patient will have delirium the next day. It is important to note that this risk is additive and thus the administration of 20mg of midazolam in a 24 hour period would be associated with a 16% chance of delirium the next day. The lower odds for transitioning to delirium in this latter study is a reflection of the trend over the past decade to reduce benzodiazepine dosing in an effort to promote patient wakefulness. Given an increased risk for delirium with continuous benzodiazepine use, along with the fact that the
risk for delirium is dose-dependent, clinicians should employ strategies known to reduce the daily amount of benzodiazepine administered and convert patients when possible to an intermittent administration regimen. In a patient deemed to require continuous sedation, clinicians should consider non-benzodiazepine sedatives not strongly associated with delirium (e.g., dexmedetomidine, propofol).

Despite the uncertain efficacy of corticosteroids for many critical illnesses and their relatively extensive risk profile, corticosteroids are frequently administered in the ICU. Although corticosteroids decrease inflammation, and therefore theoretically reduce neuro-inflammation and the incidence of delirium, results of the (Dexamethasone for Cardiac Surgery) DECS trial suggest that the administration of a corticosteroid prior to cardiac surgery does not influence the prevalence of post-operative delirium. While delirium has long been assumed to be a potential consequence of corticosteroid use, particularly when high doses are administered, its association with delirium has only recently been rigorously evaluated.

Using multivariable Markov modeling techniques, one cohort analysis of 520 mechanically ventilated adults with acute lung injury (ALI) found that systemic corticosteroid use was significantly associated with transitioning to delirium from a non-delirious, non-comatose state. However, in a larger analysis of 1,112 patients, who received a corticosteroid on 35% of their ICU days at a median dose of 50 (25-75) mg, corticosteroid administration was not associated with a daily transition to delirium [OR = 1.08, 95% CI, 0.89 -1.32] per each 10mg increase in prednisone equivalent administered. A secondary analysis of the 45% of patients who had severe hypoxemia (and thus likely had ARDS) revealed a risk for delirium that remained unchanged. Differences between these 2 studies in the way in which additional delirium risk factors were identified and incorporated, the daily frequency by which delirium was evaluated, and the differing patient populations likely account for these discordant results. Regardless of the exact risk for delirium with corticosteroid exposure, ICU clinicians should continue to evaluate their patients daily to ensure that they are receiving the lowest effective corticosteroid dose.

A number of reports have proposed cholinergic deficiency as being an important mechanistic cause for delirium occurrence. This is not surprising given attention is regulated in part by the cholinergic neurotransmitter system. Prior ICU studies attempting to evaluate the association between anticholinergic medication exposure and delirium occurrence have suffered from important methodological limitations and have yielded inconclusive results. For example, time-dependent multinomial models were not developed and the effect of increased age and an acute inflammatory state, both factors that can lead greater cholinergic neurotransmitter system dysfunction and thus potential over estimate delirium risk, were not considered.

In one prospective study of 1,112 critically ill adults, anticholinergic burden was calculated on a daily basis using the sum of the Anticholinergic Drug Scale score for each medication administered [median (IQR) = 2 (1-3)]. The transition from being in an "awake without delirium" state to "delirium" occurred on 562 of ICU days (6%). Using a first-order Markov model that adjusted for eight covariables, a one-unit increase in the Anticholinergic Drug Scale score resulted in a nonsignificant increase in the probability of delirium occurring the next day (odds ratio, 1.05; 95% CI, 0.99-1.10). Neither age nor the presence of acute systemic inflammation modified this relationship. While medications without strong anticholinergic properties are preferred in the critically ill, the results of this investigation suggest that the association between anticholinergic medication use and delirium in the critically ill may not be as significant as previously thought.

The association between medication use and delirium occurrence increasingly has become better investigated. Clinicians should develop a basic understanding of the Markov multinomial modelling techniques that are being used in many of these new studies given they have become
the gold standard method by which to estimate medication-associated delirium risk in the critically ill. The medication profile in ICU patients should be reviewed daily, and the lowest effective dose for each medication should be administered. In patients with delirium, the medication list should be carefully reviewed to identify medications that could be increasing delirium burden.

References


A Brief Report into Post Pump Delirium, its effects, and causes from a patient’s perspective

Leslie Fornear

Antecedents

I am a 53 year old male, having for the last two years a deteriorating stable angina. On the night of 12/13 May 2015 this became unstable, resulting in a heart attack at about 3:10am.

I am an ex-smoker, am overweight with (at the time) elevated blood pressure and a raised cholesterol reading, and many of the classic risk factors for delirium.
I was admitted to the Balfour Hospital, Kirkwall, Orkney on 13th May, and transferred to Aberdeen Royal Infirmary on 19th May via Air Ambulance.

I underwent an angiogram as part of my treatment, where it was discovered that, rather than insert stents, I required to be referred for surgery owing to the nature of my arterial blockages. I subsequently underwent a triple cardiac artery bypass graft on 2nd July – the delay between admission and surgery being caused by an elevated thyroid level requiring control before safe surgery could be commenced.

I spent a night on ICU, being transferred to HDU sometime on 3rd May. In ICU I recall only that it was not like I expected as a hospital ward. Being quite dark with an extremely unfamiliar layout.

Due to my operation I found that breathing was very difficult and in HDU can only describe it as breathing through a narrow straw whilst pinching your nose.

My Delirium began on the night of the 3rd and persisted for 3 nights diminishing each night before ceasing on 6th May.

**Pre descriptive statement**

At this time it must be stated that the following events, although sometimes bizarre in outlook were absolute reality to me, without the sense of being a dream or fantasy in any way. It was as real to me as you are reading this report now, and as real as your day will seem later on.

The events only occurred at night, although my wife, Joanna said that through the intervening days I would sometimes cease talking to her and assume a look of terror on my face, looking past and sometimes through her, seeing visions of something of which (in the daytime) I have no recall. Each event began after a brief period of sleep and on waking I always had the thought that ‘everything’ had subtly altered.

If there is a kind of logic that I applied to a scenario I have included this in italics immediately following the description. As an ex Mental Health Manager I now have a much greater depth of understanding of presenting patients and aspire to this small journal being utilised to promote good practice and mental health care.

**Night one – 3rd May 2015**

On waking, I was aware that the ward had altered from my short recollection of its appearance in the daytime. I did not know where I was, or why I was there and did not recognize it as a place of safety or positive treatment.

In reality on the HCU ward there are two ornamental columns per bed station, of some 3 feet in length and 1 foot diameter depending from the ceiling and supporting what I describe as a ‘crosspiece’, upon which electrical sockets, oxygen and other medical services were stationed. As I had not noticed these prior I imagined that the nurses had just placed them in position, perhaps (as I then rationalized) for a photo-shoot, in the same way that Civil War re-enactors dress a scene before a show. (*As I had not noticed these structures and they did not fit into my perception of a hospital ward, then the Nurses must have positioned them*).

The Nurses station had been altered to resemble a kind of ‘flight deck’ with monitors and screens lit and flashing with some kind of information. (*I concluded that as this resembled some kind of ‘control and command’ area, then the ward team was photographing a kind of ‘Star Trek’ scenario they had created*).

The notices (Health and Safety, Regulatory and Advisory) that were pinned to the walls had been moved and tidied, so that instead of the slightly random positioning that is given by notices as they congregate on boards etc, they were exactly spaced and aligned to be geometrically perfect. This appeared very important at the time.

The ward team themselves had undergone a subtle but fundamental change. They would repeatedly walk past me and at each passing would look at me in a malevolent way. (*The best way I can explain the change is to imagine the difference between saying to a friend that “I’ll see you later” –*
and an employer who is to dismiss a member of staff saying "I’ll see you later").

Their verbal exchanges were in the same vein and I gradually formed the opinion that there was a conspiracy to do me harm at sometime in the night. Indeed there was another gentleman in a bed further down the ward and I overheard one member of staff saying to him in a menacing manner "we’ll be getting blood from you later".

Physically I became aware that I was tethered to the wall and could move very little. On examination, I found this to be by wire connected to my neck. I could not see this connection but imagined it had been put there by the nurses. (In reality I had a line inserted by the operating team in order to service blood tests etc, but I had not been told this would be done and so had what I came to think of as a ‘metal monkey’ on my neck that became a constant presence that I could feel but never see).

When I asked about this, I was told that the team needed to check the potassium levels in my blood. (I erroneously thought that no nurse would do blood tests in the middle of the night and thus discounted their statement. Indeed became very concerned when blood was taken from this line, and tried at one time to physically remove this to prevent its use – thankfully I was not successful).

I concluded then that the Nurses were out to kill me. This was exacerbated when one Nurse attached a line to the cannula in the back of my left hand and ran some translucent red fluid into my body.

I had, connected to this cannula, a short length of wire, running between my thumb and index finger, to an unknown ‘cornucopia’ shaped device, attached to a vein in my wrist. I did succeed in removing this, without ill effect (to this day I am unaware of the purpose of this piece of equipment) (I reasoned that if the item was gone, then no harm could be made by the use of it. It is worthy of note that as I was familiar with my cannula and knew the rationale behind it I was not fearful of it and left it alone throughout).

As blood was being taken at regular intervals, and I could not prevent this, I began to observe where this blood was deposited and found that it was being taken to a small room, the light of which could only be turned on after the Nurse entered and shut the door. As this was obviously a secret room, I concluded that my blood (along with that of others) was being sold and that when I had no blood left to give then my time would be up.

It is interesting to note that at this time I became desperate to escape, but realized my depleted energies. I recall thinking that I had no way of contacting my wife, and no mobile phone. I was tethered to the wall and therefore could not rise from my bed and could not reach the exit. I had a team of Nurses, who all wished me ill who would restrain me if I tried to move. Indeed any movement seemed to bring these Nurses to my bedside and once there they inevitably carried out some invasive procedure that would shorten my life. I clearly recall resigning myself to whatever was going to happen and resolving to lie still. (It has often been asked historically why people who are facing certain demise do not resist their captors in some way – I have the impression that when the odds of survival are so poor as to be almost non-existent and the reward for attracting attention is further harm in some way then it is entirely possible to meet whatever fate is in store calmly and without struggle).

I recall speaking to a lady in green scrubs, and tearfully telling her that I didn’t know what was happening and asking her if she would keep me safe. She attempted to reassure me that she would but I remember even as she was saying the words I was making mental excuses why they could not be true – she was part of the conspiracy.

I noticed that there was an alcove some 20 yards distant from my bed and leaning slightly out from this alcove was a young, Oriental lady, with a long pony tail who was noting my movements to report back to the Nurses when their attentions were elsewhere. (This lady was perhaps the most frightening aspect of the night as she was totally silent and maintained her unwavering aspect of the night as she was totally silent and maintained her unwavering surveillance for hours on end, watching me it seemed with the deepest ill intent. Later, I went back to this alcove and discovered that the
lady’ was in fact a red fire extinguisher, with a long black discharge spout but the impression made on me was such that even in the face of reality, I still find myself – some 6 weeks post op, questioning whether it really was a fire extinguisher).

I must have fallen asleep for a short while and awoke near to dawn to find I was restrained to the bed by metal bands crossing on my chest and disappearing under the bedclothes, which were tucked in tightly and folded down at the level of my waist. I repeatedly asked to be allowed to move, but this was aggressively denied (perhaps unsurprisingly?) every time. I must have slept as the day began.

Night two – 4th May 2015

Again, I had the impression of waking after a short sleep and once more realized that everything around me had altered in some subtle way. I had some recollection of the night before and resolved to attract no attention to myself as I somehow understood that if I didn’t move, then less harm would come to me. (If I had been able to communicate this to the Nursing team – I imagine some slight relief may have been in evidence).

I recognized that although I thought the night before that visiting nurses from other wards were part of the plot – that not every member of staff in the hospital would condone the killing of patients in their care. (Perhaps this was the first sign of a kind of normality returning)

This held true throughout the night, in that the columns had still been placed in position on the ceiling, the Nursing station had been changed to resemble the bridge of the ‘Enterprise’ and the Nurses still had malevolent intent towards me, but I determined not to aggravate the situation and watched the team collect blood, take it to the secret room, sell it and come back for more.

I was still tethered to the wall by lengths of wire and noticed the Oriental lady was still holding vigil in the alcove. In addition I was aware of a nebulous tall, black ‘figure’ standing in plain view in the middle of the ward some 30 yards from my bed. The figure was indistinct, had no discernible features and remained absolutely still and silent but I got the impression he (?) was watching me for a long time. (It is possibly of no import, but I had said to the ward Sister that day that I “didn’t feel I could do this” because of the restriction in my breathing – this was one of two times I felt I may not survive my ordeal, the other being on the way to my initial hospital admission).

The night passed and I believe I fell asleep at Dawn.

Night three – 5th May 2015

I was transferred to Ward 216 ARI on this date. During the night I had a normal sleep apart from one incident. Next to me in the four bedded room where I was being nursed, was a gentleman who was quite physically ill. We slept with our curtains partly drawn for privacy.

I woke up at approximately two in the morning, to hear a woman’s footsteps approaching the bed next to mine. I got the impression they were either high heels or ‘smart’ shoes as they echoed down the ward. As she got to the bed of my neighbor she uttered the words “Jesus Christ” and ran away down the corridor.

Within the next few minutes, a procession of people (at least a dozen), both male and female came to the room and each made a single statement such as “He’s moved beyond”, “In the next room” “He’s gone on before”, “Waiting around the corner” etc.

I imagined that the person next had died and as such lay very still so as not to interrupt the following necessary procedures. I must have fallen asleep soon afterwards.

In the morning I was somewhat surprised to greet the gentleman at breakfast, somewhat none the worse for his night time demise.

Daytimes

Thankfully my delirium did not intrude on the daylight hours, although I have little recollection of wakefulness on HDU.
I can remember for some time, intermittently seeing rats walking along the skirting, and slowly disappearing as they walked. I was visited by a Robin Redbreast who sat for a short while on the windowsill next to my bed. And by a budgerigar who was quite indistinct but who flew past my wife’s head one afternoon.

My delirium ended on 6th May.

Now

I am now six weeks into my recovery. Thankfully the events and impressions of delirium are behind me and I am enjoying a good and speedy recuperation. I am walking up to 2 miles a day and am looking forward to being able to drive and cycle very soon. My general outlook is very positive and I am cognisant and grateful for the surgery performed. My outlook to certain things has changed in that I value things that are meaningful to life and I can let go of certain spurious ambitions (I don’t really need that Porsche).

Leslie Fornear

11th August 2015

American Delirium Society: Summary of Recent Activity

Report by Rakesh Arora, Past President of the ADS

Marianne Shaughnessy assumed the presidency of the American Delirium Society on May 31, 2015. Other officers include Immediate Past President, Rakesh Arora, Secretary, Christine Waszynski and Treasurer, Ann Gruber-Baldini. Malaz Boustani has stepped down after many active years on the Board. John Devlin accepted an invitation to serve. The Board of Directors have assumed multiple responsibilities, including membership on at least one subcommittee, committed to 3 outcome-based initiatives for the year as well as generating new content for our website, Facebook and Twitter feeds on a topic of their choice. This will include the creation of several very interesting topics that will be available for viewing and commentary each month.

There were 187 registrants for the 5th Annual Meeting of the American Delirium Society, Delirium: A Multidisciplinary Challenge, in Baltimore, MD, May 31st-June 2nd. Two thirds of attendees were physicians, coming from the United States and 6 other countries. Evaluations demonstrate that the conference was very well received. Pratik Pandharipande will serve as the 2016 conference chair (and ADS President-Elect) and will assisted by co-chair, Jose Maldonado.

Planning is currently underway for the 6th Annual ADS meeting, to be held on June 1st-3rd at the Sheraton Downtown Nashville (TN). The theme of the 2016 meeting is: Improving Delirium Care through the Integration of Science and Policy. The call for proposals has been published. Please see the ADS website for more specific detail regarding deadlines (https://www.americandeliriumsociety.org/conference-events/call-for-proposals). The conference will feature several exciting plenary speakers and the Jeff Silverstein Memorial Lecture, honoring an ADS member and delirium champion who died earlier this year.
The Advancement Task Force, led by Rakesh Arora, Pratik Pandharipande and Babar Khan has fostered a collaboration with executive leadership from the National Institute of Aging (NIA). During the meeting on June 4, 2015, ADS leaders presented our mission and goals. Two main themes from NIA were to: encourage ADS members to apply for RFA for R24 and strengthen the ongoing formal collaboration between NIA and ADS at the ADS annual meeting. Additional funding and networking opportunities with NINR and other funding agencies was also encouraged. This group will also be working with The EDA and the Australasian Delirium Consortium on a unified set of delirium assessment and outcome strategies.

The Finance Committee ably led by Ann Gruber-NBaldini, reports that ADS currently has 84 professional memberships and 6 student memberships. The BOD is exploring philanthropic opportunities with Lyn Lindpainter.

The Research Committee, led by Noll Campbell, sponsored a well-received "Year in Review" presentation at the 2015 conference. There are plans to include this as a recurring offering at the annual meeting with several suggestions to enhance the session, including offering more than one presentation, themed on scientific discovery, clinical translation and care. The format for each presentation will be standardized and focus on the most important conclusions from each publication.

The Communications Committee is led by Joe Flaherty. This group is facilitating a major initiative for ADS in the coming year as our newsletter will be replaced by more robust website. The BOD recognized that to engage the global delirium community requires web-based communication that is frequently refreshed and includes cutting edge content. The BOD has retained the services of a Web Manager, Seth Kiehl, who performed a content audit on the website. The BOD is reviewing his recommendations for change. There are plans to contract with a Content Curator, who will be designated to assist with increasing the profile of the website in various search engines by driving searches to the ADS website.

Randall Waszynski, a journalism major, volunteers his time and expertise to perform structural editing for documents generated by the BOD for the website. There is a new feature that has already been added: Delirium News with postings by Jim Rudolph and John Devlin. A new column written a member of the Board will be posted each month.

The American Nurses Association (ANA) is working with ADS to assess learning needs of their nurse constituents and to develop a website with educational content and best practices. The outcomes of the project are to increase awareness and expertise among nurses in all settings to prevent, recognize and manage delirium. Mary Jo Assi and Marianne Shaughnessy have co-authored an article that has been featured in the most recent issue of *The American Nurse* announcing the partnership. Several ADS BOD members serve on the steering committee of this project.

ADS is reaching out to West Coast members and developing a plan to host a meeting with colleagues at Kaiser Permanente. This group is currently headed by Jose Maldonado and is planning their first satellite meeting in March of 2016 in California. The goal is to generate a core group of individuals interested in delirium research and clinical care and bring them into ADS.

ADS had an active presence at the European Delirium Association meeting in September, 2015 in London. Jim Rudolph provided a very well received Keynote address, and other ADS faculty included Karin Neufeld, Jose Maldonado, Babar Khan and Rakesh Arora.

**Further ADS contacts:**

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

[@AmerDelirium](https://twitter.com/AmerDelirium)

Delirium War – North American Battles

The American Delirium Society meeting 2015 started off in brilliant sunshine, a real bonus for those of us who appreciate baseball and who had arrived in time to see the Baltimore Orioles playing at home (lost to Tampa Bay). We had not, however, come to watch sport rather with a commitment to tackle delirium. The last ADS meeting I had attended was the first one, four years ago and I was seriously impressed at how much it had grown in size and stature; 181 delegates and 65 submitted abstracts. The content of presentations was cutting edge and the exchange of ideas both at question time and in the refreshment breaks were inspiring.

I have picked out a few of the presentations but there was more, much more!

Dr Michael Avidan spoke on ‘Overcome confusion in research into post-operative delirium’. He introduced us to cosmic habituation; see the New Yorker article http://www.newyorker.com/magazine/2010/12/13/the-truth-wears-off. He talked about the limitations of the p value culture and alternatives such as the ‘minimally clinical important difference’, maybe more meaningful for patients. My notes include a comment ‘Read this!’ http://www.nature.com/news/scientific-method-statistical-errors-1.14700.

The session on delirium research through the past year in review included a number of speakers who presented a number of thought-provoking advances and ideas. This covered delirium assessment, including the 3D-CAM, a 3 minute diagnostic assessment tool based on the Confusion Assessment Method, from the Hospital Elder Life Program. From the other side of the Atlantic the MOTYB (Months Of The Year Backwards) was shown to be streamlined and sensitive for inattention. In keeping with the times the Edinburgh DelApp for smart phone use is a particularly attractive prospect, I’ll be watching that space! Paediatrics was not forgotten either.

I was interested to hear about the Interprofessional Education Collaborative (IPEC) with the aim to prepare future health professionals for enhanced team-based care of patients and improved population health outcomes. Then R24 was announced, a NIH call for Collaborative Networks to advance delirium research, a great opportunity for the ADS and, from what I heard, they will be taking full advantage.

That afternoon the session on Blood-brain Barrier Breakdown was illuminating. I had not realised how much progress had been made in that area. Many of the answers to our delirium questions lie in basic science and translational research. The oral presentation session that followed was an international eclectic mix of delirium research studies from Northern Europe as well as Canada, California and Tennessee. The poster session was well attended and lively. Afterwards despite the torrential rain and warnings of floods we ventured out in groups and met up over food and wine to put the delirium world to rights (not quite achieved!).

The following day I was up first in front to promote the European Delirium Association in London before the business of the day started. Sharon Gordon from the Nashville group with her colleague Erin Patel brought together Psychology with a Comprehensive Delirium program and reviewed their work to date in this key area. Jim Jackson arrived (just in time having had travel issues regardless of best laid plans) to update us on the role of cognitive rehabilitation post-delirium. For the final session of the congress it was good to catch up on work being done by the Vanderbilt group. There is much we need to know and they are making great strides into arousal subtypes, catatonia PTSD, cost, impact of surgery and deconstructing post-intensive care syndrome. Finally Gideon Caplan, our Australian colleague, gave a tidy presentation ‘Delirium to Dementia via Apolipoprotein E’.

Rakesh Arora handed over the reins to Pratik Pandharipande - Next year Nashville, Tennessee June 1st to June 4th!

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Obituary
Dr Maeve Leonard (Ryan) 1968-2015

Deliriumologists worldwide will be saddened to learn of the recent untimely passing of Dr Maire 'Maeve' Leonard-Ryan. Maeve was an immensely popular individual who straddled the worlds of clinical practice, teaching and research thereby providing endless encouragement and inspiration to all she encountered. One of four children to Diarmuid and Dolores, she grew up in Limerick and was educated at Crescent College before undertaking her undergraduate training at University College Galway where she completed her studies in 1992 with an honours degree.

Psychiatry was her calling and she entered postgraduate training through the West of Ireland rotational scheme. She obtained the Membership of the Royal College of Psychiatrists at her first attempt in 1997 before moving to Queen’s Medical Centre in Nottingham to undertake higher specialist training in Psychiatry. Thereafter, she returned to Ireland in 2005 and completed her training at the Midwestern Regional Hospital. Once aptly described as a ‘tsunami of positivity’, Maeve was immensely popular with her patients and colleagues as a dedicated and compassionate clinician. Over time, she became increasingly specialised in consultation-liaison psychiatry contributing her expert opinion to the care of thousands of patients at University Hospital Limerick and Milford Hospice over the decade following her return.

Maeve then undertook a crucial role in the establishment of the Graduate Entry Medical School in a variety of positions in the problem-based learning programme and clinical psychiatry. It was in this role as a teacher that she particularly excelled, maintaining a strong family tradition of pedagogy, and is remembered fondly for her remarkable capacity to bring out the best in others. The first five cycles of medical graduates through UL were privileged to receive the bulk of their face-to-face teaching and mentoring from such a gifted teacher and she was repeatedly identified by them as an inspirational teacher and role model. Along with colleagues in Psychiatry, Maeve produced a series of case-based teaching resources that form the mainstay of structured teaching for final year medical students at UL and which forms a textbook that will inevitably be completed by her colleagues. Undoubtedly, across the globe patients under the care of her former students are benefitting from her dedicated and thoughtful teaching style, and her encouragement of their appreciation of mental illness and its treatment. Maeve will be remembered as one of the crucial champions of the medical school during its formative years.

All through this time Maeve was a prolific researcher with a particular interest in neuropsychiatric symptoms in patients with severe physical illness. Her work in the field of delirium, which includes almost fifty peer-reviewed publications, contributed substantially to our understanding of how to best assess and manage psychiatric symptoms in hospitalised patients. Maeve had a particular interest in managing neuropsychiatric disorders in palliative care patients contributing some of her most highly
cited work that frequently featured in journals such as the British Medical Journal and the British Journal of Psychiatry. She completed an MD at NUIG (2009) through these efforts entitled “A longitudinal study of neuropsychiatric and cognitive symptoms in palliative care inpatients developing delirium and related conditions”. Our understanding of the phenomenology of delirium was substantially enhanced by her many scrupulously conducted scientific contributions.

In 2010, Maeve progressed to supervise the Cognitive Impairment Research Team at UL where she was nicknamed ‘SuperMaeve’ by her PhD students for her dedication and ability to melt mountains with her energy and determination. Maeve regularly presented her work at meetings across Europe and North America and has been an active contributor to the European Delirium Association during its decade of existence. Her return after successfully achieving a remission from her illness for the Cremona meeting in 2014 was a moment of great celebration for the EDA community, but unfortunately her recovery was to be short-lived. Her considerable contribution to this field will be recognised in the establishment of the ‘Leonard prize’ for best new researcher at the annual EDA conference. Similarly, her dedication to promoting academic effort at the Graduate Entry Medical School will be recognised in an annual prize for best new research at the annual Psychiatry study day. Maeve is sorely missed by the many scientific colleagues that she developed across the globe but will undoubtedly be remembered for many years to come for her contributions to an understudied but important area of healthcare.

A devoted mother of three sons - Tom, Daire and John, and loving wife to Cathal, her untimely loss followed a brave and determined battle with illness. She passed away peacefully at Milford Hospice on the 10th September. For those who had the pleasure of working alongside Maeve, it was a privilege to share space and time with such a committed altruist.

Ar dheis Dé go raibh a hanam

Dr David Meagher

**Advance Notice**

**EDA Congress 2016**

Next year’s EDA Congress is to be held in Vilamoura at the Dom Pedro Golf Resort on 3rd and 4th November 2016.

We are delighted to be invited to Portugal and we hope as many of you as possible will take advantage of this opportunity.
ICU delirium

What causes delirium? We're determined to find out. The Glasgow coma score does not Help us with our doubt.

It's a cause for despair Patients seeing things not there They are barely in control As delirium plays its role

Sometimes it can make you drowsy Disturbance of the sleeping state Patients complain of feeling lousy Low mood does not abate

ICDSC we run Once sedation score is done Or perform CAM-ICU This routinely here we do.

Checking infection, rehydration Co morbidities, drugs list And make sure of no starvation Patients face no meal missed.

And with care results occur Shining light on darkness state Patients respond to offered cure Meeting you with smiles so great

This will be the day we treasure, And remember after all That delirium, the measure Of our knowledge, our control.

Dr Svetlana Tattum and Naomi Brice RN Watford General Hospital ICU
Guidelines for authors

*Annals of Delirium Care* is a publication of the European Delirium Association which seeks to advance knowledge in the field of delirium. It is published three times a year (March, July, November). We especially welcome opinion pieces, reviews and research articles in the field.

Please send your ideas for contributions to the next Annals to [valerie.page@whht.nhs.uk](mailto:valerie.page@whht.nhs.uk), [andrew.teodorczuk@newcastle.ac.uk](mailto:andrew.teodorczuk@newcastle.ac.uk) or [m.dewes@web.de](mailto:m.dewes@web.de).

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