

# It is time to pay attention to fluid management: A warm welcome to the 3rd International Fluid Academy Days

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We are very excited to present you the Third International Fluid Academy Days! This 3rd iFAD will deliver once more a compact and now two-day program on clinical fluid management, a topic that has been neglected for a long time. Although the medical community clearly seems to recognise the importance of looking at fluids beyond their role in mere hemodynamic stabilization, nevertheless we are still far away from treating fluids as any other drug we would give to our patients [12]. The side effects of fluids are without doubt more than relevant. The associated morbidity and mortality with poor fluid management is either related to hypovolemia and convective problems or to fluid overload with proven morbidity in all kinds of patients and diseases, partly due to diffusion problems resulting in interstitial oedema, in either case the oxygen cannot get to the tissues [2, 9]. There is also increasing data proving that the induction of hyperchloremic metabolic acidosis due to the use of unbalanced solutions is not as innocent as previously thought [14, 17, 18].

During the 1st iFAD on November 19th 2011 (at the Elzenveld Congress and Convention Centre in Antwerp) the goal was to establish a basic knowledge on fluids and monitoring. Many questions however remained to be answered at that time: What is the real impact of hyperchloremic metabolic acidosis induced by normal saline? Where is the colloid versus crystalloid debate evolving with the new knowledge gained from the recent big trials? Is there relevant difference between starches, gelatins or the more costly human albumin? What is the place of the hypertonic solutions? What will the future bring us? Can capillary leakage be treated with colloids instead of worsening it? Should the microcirculation be the real target instead of the classic parameters like blood pressure? What is the best fluid strategy in sepsis, the perioperative setting, traumatic brain injury, kidney injury,...? Some of these issues have been addressed in the last 2 years and will be discussed and presented at the 3rd iFAD.

As organising committee of the 1st and 2nd iFAD symposium it is now our wonderful privilege to welcome you to join us again for the third International Fluid Academy Days (iFAD), here in Antwerp, Belgium, on November 29th-30th 2013. The 1st iFAD was attended by 274 doctors coming from 33 countries, and the 2nd iFAD by 368 doctors coming from 28 countries (Fig. 1). The separate nursing session (in Dutch) was attended by 99 nurses (from Belgium and The Netherlands) and together with 33 representatives from the industry a total of 500 people gathered last year in Antwerp, confirming the interest in this topic that can really be considered as “hot and sexy” (Fig. 2). The 3rd iFAD meeting is endorsed, amongst other societies by the European Society of Intensive Care Medicine (ESICM), the World Federation of Societies in Critical Care Medicine (WFSCCM), the European Society of Anaesthesiology (ESA), the World Society on Abdominal Compartment Syndrome (WSACS) and many national European societies of Intensive Care like the French Society (SRLF), the Dutch (NVIC) and the Belgian Society of Intensive Care (SIZ). An international faculty of world leaders in the field will be your hosts, and you are guaranteed a global revelation on fluid management and hemodynamic and organ function monitoring. At last iFAD, the participants rated all talks as excellent with an average score of 7.7 out of 10 vs 7.74 in 2011 (Fig. 3). The top 5 talks of last year are listed in Table 1. The majority of the participants rated the overall meeting as excellent (Fig. 4). They found the morning sessions on fluid management well balanced covering all basic aspects as well as hot topics. About 69% (vs 88% in 2011) also stated that their knowledge on fluid management improved, and 66% (vs 76% in 2011) of the participants stated that what they learned during the morning sessions would change their daily clinical practice. The majority of the participants found the afternoon sessions on hemodynamic and organ function monitoring well balanced covering all basic aspects as well as hot topics and 68% (vs 73% in 2011) also stated that their knowledge on hemodynamic monitoring improved. Finally 60% (vs 73% in 2011) of the participants stated that what they learned du-

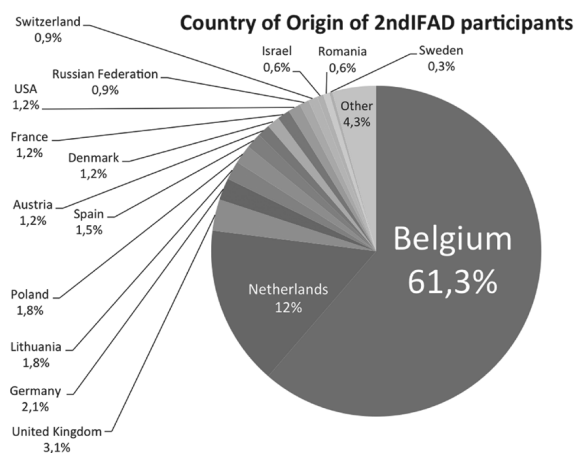


Fig. 1. Pie chart diagram with distribution of second IFAD participants in 2012 according to country of origin. Other countries included 1 participant from each of the following countries: Albania, Algeria, Australia, Ireland, Italy, Luxemburg, New Zealand, Qatar, Slovenia, Tunisia, Uganda, and Ukraine.

Table 1. Overview of top 5 talks during the 2nd iFAD.

Speaker	Title
prof. dr. Xavier Monnet	What's all that dancing about? Measuring fluid responsiveness
prof. dr Monty Mythen	The Honorary IFAD Closing Lecture: Engineering the super-fluid...
dr Can Ince	The future of monitoring starts today: Capturing capillary leak
dr Manu Malbrain	Respect your goals and change your targets! Interactive case discussion
prof. dr Jean-Louis Vincent	All fluids are good! Fluid strategy in the septic patient and ARDS

ring the afternoon sessions would change their daily clinical practice. However only 43% (vs 71% in 2011) of the participants found that there was enough time for discussion and interaction and this was the main reason to go for a 2-day meeting with round table discussions after each session. Finally, the average rating of the overall organisation of the 2nd iFAD meeting was 8.98 (vs 8.67 in 2011) on a scale from 1 to 10. During the meeting 21 knowledge questions on fluid management and hemodynamic and organ function monitoring were asked (10 on fluids and 11 on monitoring). The voting pads allowed us to identify the 3 prize award winners at the end of the 2nd iFAD and the 1st voting prize award went to Dr Willem Stockman from Roeselare in Belgium. Furthermore amongst those who filled in a paper survey with general question on fluids and monitoring the 1st prize award (iFAD-iPAD) went to nurse Joyce Christiaens form Antwerp in Belgium. For the first time, scientific abstracts were submitted last year and three prizes were awarded. The 3rd prize award went

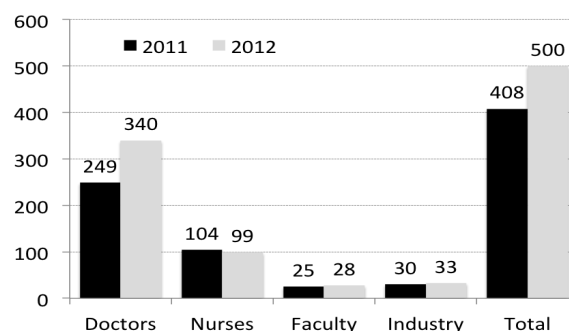


Fig. 2. Distribution of delegates at first (2011) and second (2012) iFAD meetings.

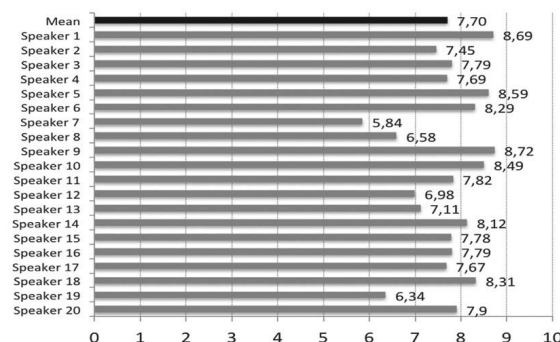


Fig. 3. Bar graph with speakers evaluations and mean score (on a scale from 1 to 10).

to Dr Caridad Soler Morejon from Havana in Cuba for her work entitled “Abdominal re-intervention predictive index combined with intra-abdominal pressure (ARPI-IAP): a prognostic model to guide abdominal re-intervention in patients after abdominal surgery”. The 2nd prize award went to Dr Wojciech Dabrowski from Lublin in Poland for his work entitled “Effects of continuous venovenous hemofiltration with net ultrafiltration on intra-abdominal pressure and body water distribution in septic shock patients”. Finally, the 1st prize award (an iFAD-iPAD) went to Dr Koen Ameloot from Leuven in Belgium for his work entitled “Nexfin® non-invasive continuous hemodynamic monitoring: validation against continuous pulse contour and intermittent transpulmonary thermodilution derived cardiac output in critically ill patients” (Fig. 5).

The target audience for this year’s meeting are all specialists caring for the critical patient: intensivists, anaesthesiologists, emergency physicians, internists, surgeons, burn care specialists, nurses and other health care workers. The 3rd iFAD ([www.fluid-academy.org](http://www.fluid-academy.org)) will provide an environment for interaction and discussion, definitions and consolidation of the knowledge in the field of fluid management and not only hemodynamic monitoring but also monitoring of other organ functions. The program highlights are listed in Table 2. As explained above, and for the first time, the iFAD will last 2 days to allow more time for discussion and interaction. This year, we will also launch the inaugural CACU on Friday, the 1st Co-course on Acute Care Ultrasound with well renowned speakers giving practical lessons and hands-on sessions (with support from Philips, Sonosite Fujifilm,

Table 2. Overview of the 3<sup>rd</sup> iFAD program and other highlights.

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A compact but complete two day program providing an update in fluid management and hemodynamic monitoring

Monitoring fluid responsiveness

Focus on end-organ monitoring

A honorary iFAD opening lecture

A honorary iFAD closing lecture

Interactive case discussion

Round table discussions

Thematic sessions

Critical Focus on Surviving Sepsis Campaign Guidelines

A concise overview of the recent big fluid trials

1<sup>st</sup> CACU, Course on Acute Care Ultrasound with hands-on session

1<sup>st</sup> PICC, course on Peripherally Inserted Central venous Catheters with hands-on session

DVD recordings

Poster sessions during lunch breaks

Oral presentation sessions

iFAD-iPAD prize awards

Industry exhibition

Presentation slides available on SlideJar website

Fluids journal with meeting proceedings

Satellite symposia on fluids and hemodynamic monitoring on Friday

Satellite symposia after the lunch break on Saturday

An international faculty of leading authorities in their field

Interactive sessions with voting system to put it all into practice

A nursing session (in Dutch) on the same topics, but at their own level

Accreditation has been requested and granted for Belgium and The Netherlands

Opening reception at Antwerp Town Hall

Gala dinner at Belle Epoque Ballroom

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Esaote, Acertys, General Electric). Further we also launch the inaugural 1st PICC, a half-day course on Saturday on peripherally inserted central venous catheters (with support from Vygon). This year we also launch satellite symposia and industry sessions on Friday and Saturday after the lunch breaks (with support and unrestricted educational grants from Baxter, Pulsion, Edwards, Fresenius-Kabi, Maltron and Bbraun). For this years meeting all the partici-

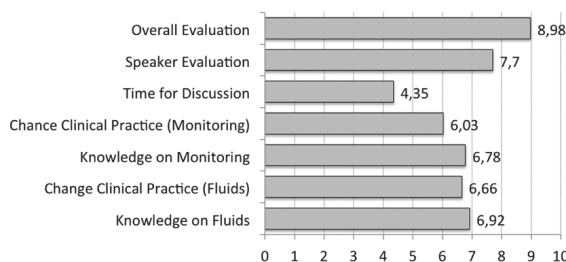


Fig. 4. Bar graph with meeting evaluation on different points (each on a scale from 1 to 10).



Fig. 5. The 2nd iFAD first prize award winner. Manu Malbrain (right) and Niels Van Regenmortel (left) next to the 1st Prize Award Winner, Koen Ameloot from Leuven, Belgium (middle).

pants will receive a complimentary copy of the 1st and 2nd iFAD DVD's with all the flash presentations of the previous lectures, furthermore the slides of the talks will be accessible at the SlideJar website (fluid.slidejar.com). We are proud to announce that the 3rd iFAD will be attended by at least 450 participants (300 doctors, of whom 37 faculty, 100 nurses and 50 representatives from the industry). Because of this success we are already planning the 4th iFAD, and there will be again some surprises, date and venue to be announced soon. Please check the website regularly for updates and the preliminary program ([www.fluid-academy.org](http://www.fluid-academy.org)).

Moreover, the 3rd iFAD is going to be very exciting in view of the recently published big fluid trials like CHRYSTMAS [4], FEAST [8], 6S [12], FINNAKI [16], CHEST [11] and CRISTAL [1], with the ALBIOS study probably being published in the very near future. The EMA's Pharmacovigilance Risk Assessment Committee (PRAC) has also just completed its review of HES solutions following an assessment of new information and commitments from companies for additional studies and risk minimisation activities. The Committee confirmed that HES solutions must no longer be used to treat patients with sepsis (bacterial infection in the blood) or burn injuries or critically ill patients, because of an increased risk of kidney injury and mortality. HES solutions may,

however, continue to be used in patients to treat hypovolaemia (low blood volume) caused by acute blood loss (especially in the perioperative setting of early goal directed treatment in the operating room), provided that appropriate measures are taken to reduce potential risks and that additional studies are carried out. It may happen that after a couple of months in view of the CRISTAL data a revision or fine-tuning of the PRAC statement may occur but the chances are very small. Meanwhile we'll have to adapt our resuscitation protocols avoiding starches and above all whilst we will use more crystalloids we must avoid fluid overload [10]. This is going to be the biggest challenge and it implicates that we must use crystalloids in a different way. While we have been using them in the past mainly for maintenance at a max rate of 84 to 200 mL/hour (or a bit more in burns), we should now treat them as a "colloid" for resuscitation and give them in boluses of 250 mL to 500 mL over 15 to 30 minutes and then stop and re-assess macro-hemodynamics (with MAP, PPV, lactate, ScvO<sub>2</sub>). Correct fluid resuscitation is all about finding the balance between Scylla and Charybdis. The sirens Charybdis and Scylla resided in the Sicilian Sea. Homer tells us that because Charybdis had stolen the oxen of Hercules, Zeus struck her with a thunderbolt and changed her into a whirlpool whose vortex swallowed up ships, as a metaphor for the risks of hypovolemia or under-resuscitation. Scylla was a supernatural creature, with 12 feet and 6 heads on long, snaky necks, each head having a triple row of sharklike teeth, while her loins were girt with the heads of baying dogs. From her lair in a cave she devoured whatever ventured within reach, including six of Odysseus' companions, as a metaphor for the risks of hypervolemia or fluid overload. In Ovid's *Metamorphoses*, Books XIII—XIV, she was said to have been originally human in appearance but transformed out of jealousy through the witchcraft of Circe into her fearful shape. Fluid resuscitation indeed remains a two-edged sword as stated by Dr Eric Hodgson from Durban, South Africa on the discussion list CCM-1: "As a clinical anaesthesiologist who sees a lot of trauma, HES is very useful for resuscitation in patients with trauma who are unlikely to need transfusion. Resuscitation to similar endpoints with HES vs. Ringers gives virtually zero oedema with the former. Using balanced crystalloids like Ringers there is always some conjunctival and bowel oedema, the latter leading to abdominal hy-

pertension and abdominal compartment syndrome [7]. These mainly young patients are very resilient and deal with oedema fairly well but there is slower feeding and more open abdomens due to bowel oedema. Since we have started using HES we hardly see an open abdomen any more, whereas Bogota bags were almost inevitable when all we had was Ringers. Survival, the only endpoint anybody seems to care about, is similar in the setting of peri-operative goal directed therapy with crystalloids but length of stay in ICU and hospital is longer [3, 5, 6, 13, 15]". The debate continues...

The proceedings of the 3rd iFAD will again be published in the journal *Fluids* :: The International Journal on Medical Fluid Management ([www.fluids.eu](http://www.fluids.eu)). In this issue of *Fluids* you can read the meeting report of the 2nd iFAD and the proceedings of the invited lectures together with the abstracts of the "poster" and "oral" sessions in addition to the full physician and nursing program of the conference.

The beautiful city of Antwerp, one of the biggest sea-harbours in the World and famous for its fashion designers, beer and diamonds is located in the North of Belgium. The shores alongside the river "Schelde" offer a peaceful and inspiring environment. All scientific sessions will take place at the Hilton Antwerp Hotel Congress and Convention Centre in the old city centre next to the cathedral and Rubens museum. During each session and especially at the social gatherings in the evening enough time will be provided to get to know each other and to exchange ideas in a relaxed atmosphere. Despite the global warming, the weather in Antwerp is not subtropical and, although they say in Belgium..."rain is always followed by sunshine", you better take that umbrella along whilst walking the harbour shores...

We wish you all a very successful iFAD where you can meet the faculty members during the breaks and social events. Thank you for not having missed this unique educational and scientific opportunity, and for having joined us now in November 2013 in Antwerp: "It is time... it is time to pay more attention to fluids!" The motto of the 1st iFAD was "Give fluids? Make it choice, not chance and above all avoid floods!" The motto of the 2nd iFAD was "Towards the perfect fluid strategy!" while the 3rd iFAD will push our boundaries even further.

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