



¹Dept of Pneumology, Intensive Care and Sleep Medicine, Klinikum Siloah, Hannover, Germany.

²Lane Fox Respiratory Unit, St Thomas' Hospital, London, UK.

³UTIP Arezzo Lo Pneumologo e Terapia Intensiva Respiratoria, Arezzo, Italy.

⁴Dept of Intensive care Medicine, Center for Home Mechanical Ventilation, Rotterdam, the Netherlands.

⁵University Hospital Karachi, Karachi, Pakistan.

ERS noninvasive ventilation course: basic concepts

In 2007, the European Respiratory Society (ERS) delivered the Noninvasive Ventilation (NIV) course in Hannover, Germany, for the first time. This teaching course was to become the birth of a successful tradition in the delivery of NIV education by ERS. In the following 10 years, the Hannover NIV course has been held on four occasions, in 2009, 2011, 2014 and, just recently in 2017. Each of these courses have been fully booked with around 80 delegates. Such was the popularity of the course and the rapidly expanding knowledge in this area of acute NIV and home mechanical ventilation (HMV) that, in 2014, the ERS agreed to deliver both a “basic concepts” and an “advanced concepts” course. The Hannover NIV course focused on the basic concepts, whereas the NIV course held for the first time in November 2015 in Milan, Italy, focused on advanced concepts.

Who is the course for?

This basic concepts NIV course provided participants with an overview of the current evidence base,

Course organisers

B. Schönhofer, N. Hart, R. Scala

Faculty

M. Chatwin, M. Gonçalves, J-P. Janssens, T. Köhnlein, A. Simonds, P. Wijkstra, W. Windisch

clinical knowledge and entry-level technical skills to deliver NIV safely and effectively in the clinical setting. The use of acute NIV and HMV is increasing across Europe, and the ERS's educational team is highly motivated to ensure that ERS members as well as nonmembers have access to teaching and training in the use of NIV in both the acute and chronic setting. ERS have acknowledged that this is a rapidly growing area of clinical work and doctors, therapists, nurses and technicians need high-quality guidance in the clinical application of this complex technology.

What is the course about?

This ERS course provided the basic requirements so that the delegates can deliver NIV and manage patients with mild-to-moderate disease in a variety of clinical settings, such as the hospital inpatient and clinic outpatient settings. The focus of the course was ensuring that the delegate understands the pathophysiology of chronic respiratory failure in restrictive and obstructive ventilatory conditions and comprehends how to correctly match the condition with the correct setup of the ventilator. Indeed, the course focused on the selection of the most appropriate patient and, in particular, how to identify the patients most likely to receive the greatest benefit from acute NIV and HMV. This includes guidance on the inner working of the ventilator and its clinical application, as well as the most relevant interface to apply to the

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Faculty and delegates of the @ERStalk course on basic concepts in NIV describe their experiences <http://ow.ly/zUPn30b7jLb>



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patient based on their clinical condition. The course also delivered sessions on troubleshooting common issues, such as air leaks, secretion management and using a cough-assist device and gave key practical tips on discharging patients from the hospital to their home. The course was delivered by experts currently working in the field of acute NIV and HMV.

Where and who?

The most recent course was hosted in the education centre of the largest municipal hospital of Hannover, Klinikum Siloah, at the Department of Pneumology and Intensive Care Medicine. The Medical Director of this department is Bernd Schönhofer, who is also the course organiser.

What was the format?

In this 2-day course, the delegates were taught in lectures, interactive discussions, workshops and hands-on sessions.

Lectures and interactive discussions

- Who needs NIV and why: getting the indications right
- Technical issues of NIV
- Monitoring of NIV
- NIV: special considerations (paediatric neuromuscular disease (NMD) and obesity, chronic obstructive pulmonary disease (COPD), and adult NMD and obesity)
- Practical tips on discharging the NIV patient to home

Hands-on workshops

- Ventilators used for NIV
- Interfaces used for NIV
- How to start NIV in the acute setting?
- How to start NIV in the chronic setting?

Working life

All delegates had the opportunity to visit and meet some patients with NIV in the Department of Pneumology and Intensive Care Medicine.

Who attended?

The course was attended by 80 delegates who came from 22 countries, including clinicians, research clinicians, nurses, physiotherapists, respiratory

therapists and respiratory function technicians. Three bursaries were provided by ERS.

Challenges and opportunities

One of the main challenges is to teach these basic NIV concepts to individuals from different backgrounds and with different expectations of the course. Delegates come from different countries and healthcare systems but are always eager to learn the practical skills demonstrated and to understand the physiological and scientific background of NIV delivery. This is achieved with face-to-face “question and answer sessions” with a friendly atmosphere between the delegates and the faculty. The involvement of “real-life” patients during the workshops is major opportunity for the delegates to realise the clinical impact of NIV on the patient. By the end of the course, the delegates can navigate the jungle of NIV nomenclature, understand the physiological concepts of acute and chronic respiratory failure and acknowledge the different international perspectives in terms of future directions for NIV and patients with respiratory failure.

Future plans

The organisers and faculty will work closely with ERS to further develop the Hannover NIV Course with the aim of delivering the next one in 2019. The next course will use the feedback from the candidates of the 2017 course with a focus on greater interaction between the faculty and the delegates, and increased patient participation. It is envisaged that there will be core themes for all delegates and separate smaller group workshops to focus on paediatric and adult conditions.

Ries van den Biggelaar, the Netherlands, a participant

A small group consisting of two staff members and six nurses from our HMV team in Rotterdam, the Netherlands, participated in this course. It was a great opportunity for us to increase our knowledge of NIV in children and adults, both in the acute and chronic settings. In particular, the combination of a theoretical and practical approach was very attractive. There was a very clear and logical structure to the programme which guided you through the world of NIV. Although the course seems to be attended by more experienced participants and participants who are wanting to introduce NIV in their hospital, there was a very nice plenary interaction after each presentation. The very active participation of all members of the faculty facilitated the discussion even more.

On the second day, the morning session contained four different workshops for which the participants were divided in four groups. Working in these smaller groups gave the possibility of interacting closely with the experts and other participants.

Although all the workshops were practical and of high quality, I felt that the workshop involving a patient was the one from which I learned the most; it was possible to talk to the patient, who was on chronic HMV and had been admitted with an exacerbation of chronic obstructive pulmonary disease. It really gave us an insight into the differences between acute and chronic NIV, and the setting of the ventilator in different clinical situations. It also highlighted the role of the staff and nurses at the hospital, the transition to the patient's home and, last but not least, the perspective of the patient in this process.

The course really fulfilled our expectations, we learned a lot and we had lovely time in Hannover as well. We went home with new insights and were ready to bring this from theory to practice.

Farah Idrees, Pakistan, a participant

First of all, I would like to congratulate ERS and the course faculty on organising such an informative and productive course.

As a pulmonologist and now a critical care fellow, I had to deal with NIV at each level of my training. It is a great modality that helps us avoid intubation

in patients with respiratory failure, due to various causes and, in many, it is required post-extubation.

I registered for this course because NIV is a relatively new entity in Pakistan and is used in very few medical setups due to its cost. Aga Khan University Hospital, Karachi, is perhaps the only medical facility in the entire country to make use of it in the same way as any international tertiary-care setup of a developed country. However, we lack properly trained personnel to teach us its use or update us on recent advancements.

I have a special interest in NIV and am involved in two related research projects. I wanted to learn about new advancements related to NIV and any novel ways I could use it in different patients. I was also interested in meeting the faculty of the course.

The course provided me with a lot of information on various aspects, such the types of masks and the appropriate patients for NIV. The information regarding the cough assist machines was new to me as they are not available in my setup. This course really helped me build my understanding of the different levels of inspiratory and expiratory positive airway pressure to be used in different patients with different conditions. I also learned effective methods of bilevel positive airway pressure weaning.

The entire faculty was very polite and eager to answer all queries. The session with real patients was a great experience. Also, it was really kind of the faculty to organise a hospital tour.

Finally, I would like to thank the organisers for granting me this great opportunity.

Conflict of interest

None declared