Invasive Hemodynamic & Respiratory Function Monitoring and Techniques of Mechanical Ventilation

MAY 30 • JUNE 03 2016
SARDINIA
SASSARI
Via Vienna, 2
Anesthesia Workshop:
Invasive Hemodynamic & Respiratory Function Monitoring and Techniques of Mechanical Ventilation

Sassari, Italy ● May 30 - June 3, 2016

Course Director: Prof. Bernd Driessen, DACVAA, DECVPT (USA/DE)
Local Organizing Committee: Prof. Eraldo Sanna Passino, Prof. Giovanni Mario Careddu, Dr. Nicolò Columbano
Co-instructors: Dr. Chiara Adami, DACVAA, DECVAA (UK/IT), Dr. Sebastien Bauquier, DACVAA (AU/F), Dr. Jean-Claude Ionita, FTA f. Anästhesiologie (DE), Dr. Francesco Staffieri, cand. ACVAA (IT)

OVERVIEW

The 5-day course includes interactive class-room teaching in the mornings from 09:00h to 12:00h, covering the topics listed below and providing the knowledge base for subsequent practice sessions. Afternoon wet labs run from 14:00h to circa 17:00h. In the initial workshop, attendees will practice placement of arterial and central venous catheters in anesthetized animals (sheep are ideal subjects for practicing catheterization) before learning to interpret the data obtained with invasive hemodynamic monitoring and to appropriately treat various hemodynamic conditions. In subsequent wet labs, attendees will practice application of capnography, arterial blood gas analysis, and spirometry as well as various techniques of mechanical ventilation including lung recruitment maneuvers and one-lung ventilation. Furthermore, they will learn how to adjust ventilator settings based on respiratory monitoring during anesthesia.

After the course attendees will have become familiar with 'state-of-the art' hemodynamic and respiratory function monitoring and the various techniques of mechanical ventilation used in clinical practice. In addition, they will be able to propose appropriate treatment for animals experiencing abnormal hemodynamic or respiratory function during anesthesia.

TOPICS

- Techniques of invasive hemodynamic function monitoring
- Techniques of respiratory function (gas exchange and pulmonary mechanics) monitoring
- Principles of mechanical ventilation (MV) and its impact on the anesthetized animal
- Mechanical ventilator machinery and modes/techniques/settings of MV
- One-lung ventilation: indications – techniques – precautions/complications
Detailed Course Schedule*

**Venue:** Università degli Studi di Sassari  
Dipartimento di Medicina Veterinaria  
Centro di Ricerca di Chirurgia Comparata  
Via Vienna, 2  
07100 SASSARI  
ITALY

**Lectures:** Aula Consiliare

**Wet labs:** Centro di Ricerca di Chirurgia Comparata  
(Comparative Surgery Research Laboratory ('CSRL'))

**Attire:** Participants are expected to bring suitable OR shoes with them.

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**Monday, 30 May 2016**

08:00 - 08:30 Registration

**Morning lectures**

08:30 - 09:00 h Welcome and introduction to the workshop (BD)  
09:00 - 09:50 h Indications for and techniques of invasive arterial blood pressure monitoring with step-by-step illustrations of how to do (JCI)  
10:00 - 10:50 h Indications for and techniques of central venous pressure monitoring with step-by-step illustrations of how to do (to be determined)  
11:00 - 11:50 h Interpretation of arterial and central venous pressure traces under various hemodynamic conditions (BD)  
12:15 - 13:45 Lunch break

**Afternoon wet labs**

**Hemodynamic monitoring techniques (Stations I-IV)**

14:00 - 15:00 h Arterial blood pressure (ABP) monitoring set-up plus transcutaneous arterial catheter placements (auricular artery, saphenous artery, femoral artery)  
15:00 - 16:00 h Central venous pressure (CVP) monitoring set-up plus transcutaneous central venous catheter placement  
16:00 - ca.17:00 h Interpretation of ABP and CVP traces under different hemodynamic conditions

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**Tuesday, 31 May 2016**

**Morning lectures**

09:00 - 09:50 h Techniques of capnography/capnometry and interpretation of capnograms (JCI)  
10:00 - 10:50 h Systematic approach to arterial blood gas analysis (CA)  
11:00 - 11:50 h Techniques of spirometry and compliance recording | Interpretation of spirometry graphs (FS)  
12:15 - 13:45 Lunch break
Afternoon wet labs

Respiratory monitoring techniques (Stations I-IV)

14:00 - 15:00 h  Capnography techniques and interpretation of capnograms under various respiratory function conditions
15:00 - 16:00 h  Arterial blood gas analysis under various respiratory function conditions
16:00 - ca.17:00 h  Spirometry techniques incl. volume-pressure loops & lung compliance determinations

Wednesday, 01 June 2016

Morning lectures

09:00 - 09:50 h  Indications for mechanical ventilation | Principle mechanics of artificial (mechanical) ventilation versus spontaneous breathing | Impact of mechanical ventilation on the animal (BD)
10:00 - 10:50 h  Mechanical ventilator machinery (types of ventilators) | Modes of mechanical ventilation | Settings for mechanical ventilation in different animal species | Monitoring the animal during mechanical ventilation | Weaning the ventilated animal off the ventilator (BD)
11:00 - 11:50 h  Concept and techniques of "Open Lung" ventilation including alveolar recruitment maneuvers (FS)
12:15 - 13:45  Lunch break

Afternoon wet labs

Modes of mechanical ventilation (Stations I-IV)

14:00 - 15:00 h  Technique of volume limited mechanical ventilation
15:00 - 16:00 h  Technique of pressure limited mechanical ventilation
16:00 - ca.17:00 h  Mechanical ventilation with CPAP and PEEP; "Open-lung" ventilation techniques (lung recruitment maneuvers)

Thursday, 02 June 2016

Morning lectures

09:00 - 10:50 h  Adjustments of mechanical ventilator settings based on minute ventilation, capnography, arterial blood gas, and hemodynamic data (clinical case presentations) (BD & FS)
11:00 - 11:50 h  Indications for and modes & techniques of high frequency ventilation | Complications of high frequency ventilation (BD)
12:15 - 13:45  Lunch break

Afternoon wet labs

Modes of mechanical ventilation (Stations I-IV)

14:00 - 15:00 h  Adjustments of volume limited mechanical ventilation based on respiratory monitoring data
15:00 - 16:00 h  Adjustments of pressure limited mechanical ventilation based on respiratory monitoring data
16:00 - ca.17:00 h  Technique of high frequency ventilation

Friday, 03 June 2016

Morning lectures

09:00 - 09:50 h  Comparative bronchial tree and lung anatomy (dog, cat, sheep, horse) (to be determined)
10:00 - 10:50 h  Indications for and complications of one lung ventilation in animals | Different techniques of one-lung ventilation using double lumen versus bronchial blocker tubes (CA)
11:00 - 11:50 h  Step-for-step illustration of the placement of an endobronchial blocker (EBB) tube employing endoscopic guidance (CA)
12:15 - 13:45  Lunch break

Afternoon wet labs

One-lung ventilation (Stations I-IV)

14:00 - 15:00 h  Placement of Arndt-type EBB into one main bronchus using an endoscope as an aid to guide the EBB tube placement in canine cadavers
15:00 - 16:00 h  Technique of one-lung ventilation
16:00 - ca.17:00 h  Respiratory monitoring of the animal subject to one lung ventilation and adjustments to CMV as needed

c. 20:00 h  Leaving for social dinner at the seaside in Alghero

*Subject to potential changes.

Our sponsors

Dräger

Surgical SRL

SICV
ANESTHESIA WORKSHOP May 30 – June 03, 2016
REGISTRATION / HOTEL BOOKING
EARLY registration deadline: March 01, 2016
FINAL registration deadline: April 01, 2016

Registration Office
Narkovet Consulting, LLC.
Amalienstr. 40
D-42287 Wuppertal
GERMANY

Surname*
Position / function in hospital / practice*
Street / Mailbox*
Zip Code*
Country*
E-mail Address*
Phone or Mobile Phone*

Dr. Prof.

Name*
Tax ID No.*
Citizenship*
City*

Required fields.

Dietary Requirements (for lunch and social dinner)
Vegetarian Non-Vegetarian

Where did your interest in the Anesthesia Workshop originate from?
Università degli Studi di Sassari website
NARKOVET CONSULTING website
Flyer from NARKOVET CONSULTING
Advertisement on other websites
Advertisement in veterinary newspapers / journals
Other (specify) _____________________________________________________________

I have read and understood the terms & conditions listed below and agree with my signature below and payment of the tuition fee to those.

Date / Location ___________________________ Participant’s Signature ___________________________

Please return this registration to the NARKOVET CONSULTING Office, Germany by mail or e-mail: narkovet@narkovet.de
Payment of Course Fees
Tuition fee: EURO 2,250.-- (including lunch and one social dinner with all participants and instructors)

Please be advised that the workshop includes live animal wet labs in the afternoons in small groups of 2-5 participants and therefore subscription is limited to a maximum of 20 participants (minimum 12). Scanned copies of the final bank transfer forms must be sent to NARKOVET CONSULTING by mail or e-mail to complete full registration.

Payment of Fee by Bank Transfer:
(Please do not make payment until you are informed of a place in the workshop, otherwise this will result in an administration charge if payment has to be refunded).

- Regular Registration: DEPOSIT OF 300 EURO ONLY to secure your place in the workshop (remaining payment must be transferred by no later than April 08, 2016 to complete full registration and keep guaranteed place in the course).
- Early Registration: FULL TUITION FEE minus 100 Euro discount at time of registration (single payment of 2,250,-- EURO) prior to March 05, 2016)

Account Holder: NARKOVET CONSULTING, LLC. Bank Name: Deutsche Bank Wuppertal AG ; BIC (SWIFT-CODE): DEUTDEDBWUP ; IBAN: DE9633070024083210100

Please make sure that when transferring money from outside Germany any additional bank charges are included in the payment and not charged to NARKOVET CONSULTING, LLC. and that the invoice number you received after confirmation of receipt of your registration is written on the bank transaction form.

Hotel Booking
The following hotel is located within a driving distance of 15 minutes of the workshop venue at the University of Sassari and allows you to book your accommodation at a discounted rate of 46,00 € per room including breakfast. Please visit the hotel’s website listed below to make your reservation online. Please refer to the workshop when booking your room to ensure that you will receive the discounted rate. You may also opt to book a room at half pension (i.e. including breakfast and dinner). Please contact Davide in the booking department of the hotel if you have any questions or special needs.

Hotel Marini
Via Pietro Nenni 2
07100 Sassari
Italy
Tel. +39-79-277-282
Fax +39-079-280-300
info@hotelmarini.com
www.hotelmarini.com
https://www.facebook.com/hotelmari
skype/msn: hotel.marini@live.it

Airlines serving the airports Olbia and/or Alghero near Sassari
Air Berlin     Alitalia     Easy Jet     KLM     LH/Germanwings
Ryan air      TUlfly      Volotea      Air France
TERMS AND CONDITIONS

Effective date: October 01, 2014

1. General comments

These General Terms and Conditions of NARKOVET CONSULTING, LLC. (hereinafter referred to as NARKOVET CONSULTING) are an integral part of the contracts entered into between NARKOVET CONSULTING and participants of continuing education courses/programs/workshops. NARKOVET CONSULTING provides its services in the context of continuing education programs solely on the basis of these Terms and Conditions.

2. Registration

Registration for continued education programs have to occur in writing (by filling out the forms available online and submitting them by e-mail to narkovet@narkovet.de or by mail to the postal address provided on the application form). Upon receipt of the application the customer will be sent by e-mail both a confirmation of registration and preliminary reservation as well as an invoice including details of payment terms, provided all information (including the full name, complete address, and a valid e-mail address) was entered and these Terms and Conditions were read and accepted as indicated by the signature on the registration form.

Please understand that the number of participants is limited in all offered continuing education courses/programs/workshops and therefore available spots assigned to clients in the sequence in which registrations were received. In the case we received already a maximum number of registrations for a specific course, we offer the customers to be put on a waiting list in the event that participants withdraw their commitments with short notice.

3. Terms of Payment

The fee for a continued education course/program/workshop is to be paid following receipt of the registration confirmation and invoice by the date stated in the online registration form and / or invoice. Usually a bank transfer to the account of NARKOVET CONSULTING stated on the registration form and invoice is requested. Registration is binding after the confirmation has been received by the customer. However, a place in the course will be guaranteed ONLY if the course fee has been received in full on the account of NARKOVET CONSULTING by the deadline indicated on the registration form.

All payments are due without any deduction within 14 days of receipt of the invoice or in case of early bookings no later than on the date indicated for early booking and regular bookings, respectively on the registration form and invoice, respectively. The customer agrees to pay for default interest in the amount of 5% above the base rate on the due date. NARKOVET CONSULTING is authorized to make in addition a claim for damages and to charge for each reminder a reminder fee in the amount of € 50. Failure to meet the payment deadline(s) carries the risk of losing the reservation of a place in the continuing education course. In the case the full registration fee has not been received on the due date, NARKOVET CONSULTING is entitled to cancel the reservation of the customer and to offer the space to another client.

4. Fees

All course fees quoted by NARKOVET CONSULTING exclude VAT (Usst. / IVA / TVA), unless otherwise expressly stated. Where and when applicable, sales taxes will be added to these fees and this will be indicated in the invoice the client is receiving. The course fees cover the education/training ONLY. Unless otherwise specified, expenses for travel, accommodation, and meals are not included. The fees quoted remain valid until the starting date of a course, program or workshop. NARKOVET CONSULTING, at its own discretion, is entitled to break down tuition fees for educational programs delivered in modules and to collect fees from clients on the basis of individual modules at different times by providing partial invoices for each individual course module.

5. Cancellation

Cancellation of a registration for a continuing education course/program/workshop can only be accepted in writing. Any cancellation is subject to a processing fee of € 50. In case a notification of withdrawal has been received by the NARKOVET CONSULTING OFFICE up to 30 days before the start of the continuing education course/program/workshop, the full fee will be returned to the customer minus a processing fee. If the customer cancels his/her participation in the course/program/workshop during a period from 29 up to 10 days before the starting of the course, 60% of the course fees will be refunded. After that period refund is unfortunately no longer possible. We accept, however, replacement for participants at no additional cost.

6. Changes to Courses/Programs/Workshops

NARKOVET CONSULTING reserves the right to make changes to the continuing education course/program/workshop, even after their announcement. We like customers to be aware that they are not entitled to a refund of the course fees in case of program changes, the failure of an instructor, or replacement of a speaker. Also relocation of the event by NARKOVET CONSULTING to another venue or postponement of the event for good cause (e.g., short-term failure of one or more key instructors) does not entitle
Within 2 weeks of the deadline for regular registration (indicated in the registration form), NARKOVET CONSULTING reserves the right to cancel the event. In case of cancellation for this reason NARKOVET CONSULTING will refund all course fees in full and any other payments already made. Any cancellation by NARKOVET CONSULTING of the continuing education course/program/workshop during a period up to 6 weeks prior to the start of the event does not entitle to any claims for damages, also not for travel and hotel booking expenses.

7. Copyright

The content of all educational course/program/workshop materials provided including course and training documents, drawings, images, graphs, proposals, reports, analyses, organizational charts, programs, specifications, designs, calculations, media, etc. is and remains the intellectual property of NARKOVET CONSULTING and/or the speakers / instructors. Any reproduction (also for internal use by the event participants or paying client) is permitted only with the express written permission of NARKOVET CONSULTING. All materials/media remain the property of NARKOVET CONSULTING. If the customer violates these provisions, he shall pay NARKOVET CONSULTING an appropriate user fee, which is based on the value of the continuing education course, program or workshop. NARKOVET CONSULTING expressly reserves the right to claim further damages.

8. Privacy policy

The disclosure of all personal and business data by the user of the website or the services of NARKOVET CONSULTING takes place voluntarily. It is prohibited to use contact details of NARKOVET CONSULTING, postal addresses and phone numbers, and e-mail addresses for sending unsolicited information. NARKOVET CONSULTING preserves the right to execute legal action against senders of spam mails in violation of this prohibition. The user agrees to the electronic processing of his/her data. The customer declares that he/she passes on to NARKOVET CONSULTING data subject to privacy law regulations for the fulfillment of the contractual purpose only, if these data do not contradict the legitimate interests of third parties. NARKOVET CONSULTING is not obliged to cross-check the admissibility of those data for usage. The customer agrees to defend, indemnify, and hold harmless NARKOVET CONSULTING from all liabilities, claims, demands and expenses, including attorney's fees, made by any third party.

9. Limitation of Liability

NARKOVET CONSULTING is committed to deliver its educational programs with the care of a prudent business enterprise. Liability for minor negligence is excluded by this agreement. NARKOVET CONSULTING assumes no responsibility for the relevance, correctness, completeness or quality of the information provided by speakers / instructors during continuing education courses/programs/workshops. Liability claims against NARKOVET CONSULTING, which refer to direct or indirect damage to or by animals or direct or indirect damages of any other nature caused by the use, interpretation, or non-use of presented information or by the use of incorrect and incomplete information were, are excluded.

A liability of NARKOVET CONSULTING for damages we are responsible for is limited in amount to the total amount of the continuing education course/program/workshop fees. There is no liability for consequential damages. The customer must notify NARKOVET CONSULTING of any deficiency promptly and in writing, otherwise all claims are lost. The parties mutually agree that deficiencies are to be reported and claimed within six months of completion of the continuing education course/program/workshop regardless of what legal grounds support the customer's claim. After this period, the claim is extinguished, so that no relevant objections can be raised anymore, NARKOVET CONSULTING is required to correct any deficiencies by improvement or supplementation of the missing. The customer can demand rescission or price reduction only when NARKOVET CONSULTING rejects any improvement in writing and without providing reasoning or when even the third improvement attempt failed. When confronted with warranty claims by third parties in conjunction with this contract, the customer has to inform NARKOVET CONSULTING immediately in writing, otherwise risks losing any claim of loss or damage. NARKOVET CONSULTING provides no travel, accident, or health insurance coverage for clients participating in continuing education courses/programs/workshops. Participants are therefore encouraged to obtain, if necessary, on their own reasonable travel, accident, and health insurance coverage for the time period they stay away from home (including time for arrival and departure).

10. Final provisions

This agreement and all of the terms and provisions hereof and the rights and obligations of the parties hereto shall be construed and enforced in accordance with German law. Any legal action or proceeding between the parties arising out of this Agreement shall be brought in the courts of Wuppertal, Germany, and the parties hereby accept the jurisdiction of the said courts for all purposes. If any part of these Terms of Use is held invalid or unenforceable, that portion shall be construed in a manner consistent with applicable law to reflect, as nearly as possible, the original intentions of the parties, and the remaining portions shall remain in full force and effect. The failure of NARKOVET CONSULTING to exercise or enforce any right or provision of these Terms and Conditions shall not constitute a waiver of such right or provision. The failure of either party to exercise in any respect any right provided for herein shall not be deemed a waiver of any further rights hereunder. The customer is required to inform NARKOVET CONSULTING immediately in writing of any changes regarding his/her postal and/or e-mail address. Relevant statements will be delivered to the customer's last known address. Thus, the delivery to a former address shall be deemed effective when the other party has moved to a new address without leaving a note regarding the change in address.