

PROGRAMME



Capita Selecta Duikgeneeskunde



Medication and Diving

An advanced course for dive physicians and other care professionals.

Date: 8 February, 2014

Venue: Academic Medical Centre, Amsterdam

Subjects

Medication in ENT medicine, neurology, psychiatry, ophthalmology, cardiology and internal diseases.

Aim

This course aims to give insight into the intended effects of the application of drugs and their side effects in relation to diving. This includes safety aspects, both medical as well as general. A preliminary consideration is that if a particular drug affects the ability to drive a car safely, diving safety is possibly threatened as well. Several questions may be distinguished.

1. What is the condition/disorder/illness for which the medication is being prescribed and what are the relationships between the drug, the patient, his/her diet and the interactions with other (prescribed) medicines?
2. To what extent does the application of the drug for a specific disorder influence an organ or the entire system so adversely as to preclude safe diving?
3. Medications are mainly used by middle aged and elderly people. From the age of 40 to 70 years the physical reserve, and consequently self-reliance is reduced, by at least a factor of two. What are the effects of the drugs on the physical reserve?
4. Also the mental reserve of the aged (that is the drive to preserve ones life) is reduced. Therefore the same question as asked for the physical reserve may also be raised for the mental reserve.
5. Attention, concentration, (situational) awareness, vigilance and decision making ability, all crucial for diving safety, can also be greatly diminished. Moreover, reduced attention and concentration results in reduced perception. To what extent does this all reduce dive safety?

Knowledge of the above matter is crucial for the medical examiner. For professional divers the use of drugs would mostly imply rejection. In recreational diving the criteria for passing a physical are much less clear-cut. In fact, during the past decennia, the 'grey zone' has expanded like an oil-stain.

Another application is the investigation of the relationship between medication and a dive incident.

After this seminar, the physician will have the knowledge to decide whether a professional diver who is using prescription drugs or has just finished medication, should be passed for his physical and whether a recreational diver when using specific medicines should be allowed to dive and under what conditions.

This seminar should be regarded as an advanced course. An elementary course on diving medicine (in the Netherlands e.g. SHF or VSG) is a prerequisite for physicians.

Teachers

Dr. Rob van der Hulst, ENT physician, Dr. Gerhard Visser, neurologist, Dr. Rienk Rienks, cardiologist, Dr. Peter Westerweel, physician for internal diseases.

Recommendation

The course is recommended by the expert group of dive medicine of the Vereniging voor Sportgeneeskunde (Soc Sports Med) and by the Nederlandse Vereniging voor Duikgeneeskunde (NVD, Dutch Soc Dive Med)..

Accreditation

The program comprises **6 oral contact hours** and is assumed to give **6 accreditation points** for the Dutch NVD, NVAB and VSG. The course members obtain a certificate after completion of the whole course.

Course members from outside the Netherlands should apply personally with their own accreditation office. We will support them administratively. The level of the course is accordance with that of EDTC and ECHM for Medical Examiner, 2010.

General: mission of the “AMC Capita Selecta Duikgeneeskunde”.

The Capita Selecta Duikgeneeskunde (CSD), refresher courses dive medicine, are given by the Academic Medical Centre (AMC), a one-board-cooperation of the medical faculty of the University of Amsterdam (UvA) and the academic hospital with the UvA. This hospital has a special position within the Dutch academic hospitals; it is the cradle, also in Europe of a related discipline, hyperbaric medicine, performed in the “Boerema Tank”. This new type of refresher courses, offered to dive physicians, has a typical ‘Alma Mater’ character.

In the first place, the AMC Capita Selecta present extensively and discipline-wise education in dive and caisson medicine. In addition, they also give education in new developments as they occur in the academic hospitals and medical faculties. This implies that, within the lessons, the characteristics of disorders are discussed, including their diagnostics and treatment, from the point of view of the present academic state of the art.

In short, the Capita Selecta are marked by a mix of education in the dive medicine of the respective discipline and up-to-date education in the discipline itself, for instance in cardiology, ophthalmology, otology etc. Also, the Capita will pay attention to the requirements of the medical examination.

The Capita are aimed for non-specialized physicians, first line physicians, sport and occupational physicians, professional dive physicians, clinical doctors and paramedical academics and technicians.

In general, the teachers have their affiliation with academic hospitals and medical faculties, and have an international reputation in patient care, academic education and/or medical research as becomes clear from their curriculum vitae.

To have lower thresholds for the courses given in the Netherlands, the venue is easy to reach and centrally located, and moreover the course is low-budget.

Programme committee

Nico Schellart (chair, diving physiologist), Marga Schweigmann (hyperbaric & diving physician), Erik van der Sande (family and sport physician).

Executive committee

Nico Schellart (course director), Eduard van Riet Paap (administrative manager) and Hans van Dam

Responsibility

The Capita Selecta Duikgeneeskunde are given under the responsibility of the Academic Medical Centre, Univ. of Amsterdam (course leader Nico Schellart). The organization is by the Stichting Duik Research (SDR)¹⁾ and Biomed. Eng & Physics, AMC (Prof. Dr. A.G.J.M. van Leeuwen, chair).

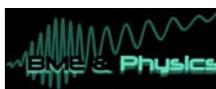
Announcements

Ongoing announcements about future courses can be found at www.duikresearch.org, www.diverresearch.org or are communicated by E-mail.

¹⁾ SDR is a non-profit organisation aimed to promote dive safety. Work for SDR is done voluntarily.

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Programme

Medication and Diving

8:30-9:00 Welcome

9:00-9:05 Introduction, Nico Schellart, course leader

- 1 9:05-10:05 Dr. Rob van der Hulst, ENT physician, Amstelland Hospital, Amstelveen: ENT-medication and Diving
- 2 10:05-11:05 Dr. Gerhard Visser, neurologist, Stichting Epilepsie Instellingen Nederland, Heemstede: Neurological medication and Diving.

Break

- 3 11:25-12:25 Dr. Rienk Rienks, cardiologist, Utrecht Medical Center, Utrecht: Cardiologic and vascular medication and Diving
- 4 12:25-13.00 Cases of ENT and Neurology

Lunch

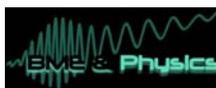
- 5 13:40-14:40 Dr. Peter Westerweel, physician for internal diseases, Albert Schweitzer Hospital, Dordrecht: Medication of Internal diseases and diving,
- 6 14:40-15:15 Cases of Cardiology and Internal Medicine
- 7 15:15-15:45 Round Table. Miscellaneous subjects (e.g. dermatology, gynaecology, orthopaedics, rheumatology)

Break

16:10 16:30 Examination

16:30 16:50 Evaluation

Drinks





Rob van der Hulst



Rienk Rienks



Gerhard Visser



Peter Westerweel

The lecturers

Rob van der Hulst studied medicine at the Vrije Universiteit in Amsterdam and specialized as an ear- nose-throat specialist at the Amsterdam Medical Center, AMC. He received his doctorate on the thesis: "Ototoxiciteit door geneesmiddelen", i.e. drug induced ototoxicity.

After some years as staff lecturer at AMC and four years general practice in the otolaryngology department in CWZ Nijmegen, he is now working in the Amstelland Hospital in Amstelveen.

As otolaryngologist he holds a number of super-specialties. Closely involved with hearing aid revalidation nationwide he has seats in numerous boards concerned with quality and efficiency in the adaptation of hearing aids to the user. Besides he is consultant in pressure related ENT cases. A member of the Dutch society for aero-medicine, NVvL, he advises several Dutch airlines, seeing a large number of flying personnel on a daily basis. Since 1991, he is also member of the Dutch society for diving medicine, NVD, advising and treating both sports - and professional divers, among the latter also firemen. Frequently he collaborates with the Royal Dutch Navy diving centre, DMC, in Den Helder. He lectures and gives workshops and seminars in the aforementioned specialties of otolaryngology on a regular basis. Also he is a keen sport diver.

Rienk Rienks graduated in medicine in 1981 and was confirmed as cardiologist in 1986. He has been trained at the Utrecht University Hospital. Since 1983 working at the Utrecht Medical Center, UMC, he obtained his doctorate in 1991 on a dissertation on the applications of lasers in cardiology. Detached to the Centraal Militair Hospitaal in Utrecht since 1995, he cares for military personnel.

His main interests lies in diving, aeromedical and sports cardiology. Considered a national authority on hypo- and hyperbaric cardiology he fills several consultancies and was member of the board of the Dutch Society for Sports Medicine, VSG, and participates in several committees of the Dutch Society for Cardiology (NVvC) and VSG. He is member of the UHMS. He started to dive in 1982 during his tenure as a resident in Curacao. He is PADI and NAUI certified, advanced open water, rescue, Nitrox.

Peter Westerweel is an internist-hematologist working at the Albert Schweitzer Hospital in Dordrecht. He has authored several international publications in diving medicine, although the majority of his scientific work has been focused on the role of bone marrow derived progenitor cells in renal and cardiovascular disease. He has obtained his PhD at the University Medical Centre in Utrecht, where he was subsequently employed as a postdoctoral researcher. He worked at the Weill Cornell Medical Centre in New York, USA, as a visiting fellow. He is a diving physician with the Dutch Society for Diving Medicine and member of the board of the society. He is a consultant for the Diving Medical Center of the Dutch Navy. He has participated in the development of several national guidelines in diving medicine, including those on diving with diabetes and diving with antiplatelet and anticoagulant drugs. He is the principle investigator of the DIDIH (Diving with Disorders in Hemostasis) study, obtaining a large database of comorbidity and medication use amongst Dutch and Belgian divers. He is an enthusiastic scuba diver and active PADI Open Water and Specialty Instructor, diving in the Netherlands year-round, but enjoys a tropical underwater excursion also when the opportunity arises.

Gerhard Visser is a neurologist and since 2011 medical head of the Clinical Neurophysiology department and Epilepsy Monitoring Unit in the Stichting Epilepsie Instellingen Nederland (SEIN), location Heemstede. His former position was head of Clinical Neurophysiology in the Erasmus University Hospital in Rotterdam. His PdD degree (1998) was about Non-invasive (EEG and TCD) detection of compromised cerebral circulation in the context of carotid endarterectomy. His main scientific interests has been motor unit physiology, continuous neonatal EEG monitoring, and more recently Cortical Excitability.

In the diving medical field, he's been involved in research projects with the Diving Medical Center of the Royal Dutch Navy with respect to oxygen toxicity and the hyperbaric treatment of cerebral embolism. He has been member (since 1988) and president (1997-2012) of the medical committee of the Dutch Underwater Association. He's member of Expert Committees of the Nederlandse Vereniging voor Duikgeneeskunde (NVD) and the Vereniging Sportgeneeskunde (VSG), and member of a committee involved in the certification of Sports Diving Medics (SCAS). In the past years he's been involved as teacher in many diving medical related courses and the medical training of divers and diving instructors. He's a sports diver since 1982 and still enjoys the underwater world as 4* CMAS diver, 2* Instructor Trainer and Nitrox Instructor.

Description of lectures

Rob van der Hulst, ENT-medication and Diving

Probably the ENT-medication – mainly OTC (over the counter) - has the largest volume in diving medicine pharmacy. Every diver, and not at the least every dive instructor, has his/her own arsenal of personal tricks and tips. Divers of all ages are confronted with problems of the aeration of the cavities of the head. Therefore a professional classification of commonly used medication (like in aviation medicine) is required.

Most commonly used are anti-allergic drugs like antihistamines(e.g. Levocetirizine, Desloratadine) and steroid containing nose-sprays(Fluticasone and Mometasone). Even oral corticosteroids are used “to keep them diving”. The battle around decongestive nose-sprays, like Xylometazoline, is an ever lasting battle. OTC medication like “Sudafed” is in various forms a kind of recue medication for “blocked” divers.

Drugs for motion-sickness (oral such as Primatour, Cinnarezine and plasters, such as Scopolamine (scopoderm), as well as the sweet tasting Ginger tablets are commonly used in diving. The prevention and treatment of external otitis is a real topic for every diving doctor, and gives them an enormous amount of alternatives, from topic eardrops, oral medication to irrigation and air-drying devices. Finally drugs to clear all cavities and/or tubes at the same time will be discussed. We will point out to what extend drug may be used while diving and which ones actually do not facilitate safe diving. Evidence should be searched and found to provide a reliable arsenal of diving medication!

Most important however is a good knowledge of the physiology of the ENT-mucosa, and an awareness of the external factors(air-condition in airplanes, jet lags, smoking, alcohol, physical condition, ENT medical history), because they determine most of the physical (ENT) diving hazards.

Gehard Visser Neurological medication and Diving

Changes in the operation of medicaments by use in a hyperbaric environment are usually not well researched. In my presentation I therefore will provide and explain general guidelines that can be used in assessing whether diving with a certain drug can be safely accepted. If relevant drug-specific knowledge is available related to diving this will be given. As the title may suggest, focus will be on drugs that have potential influence on operational diving safety by influencing proper function of the nervous system (either cognitive or functional), or that may give an increased risk for a specific nervous system related diving disorder, including loss of consciousness. For this, the following considerations are important: (1) is the underlying condition for which the drug is given a problem for diving (such epilepsy or depression), (2) are the aimed effects of the given drug a problem (such as anticoagulation and the additional damage that may result in the occurrence of decompression sickness), (3) are the known side effects of the drug a problem (i.e. dizziness, drowsiness, nausea), (4) does the diving environment has an undesirable effect on pharmacokinetics or dynamics, and (5) does the drug gives an increased risk of a specific diving associated condition, in particular decompression sickness, nitrogen narcosis, carbon dioxide or oxygen toxicity.

Rienk Rienks, Cardiologic and vascular medication and Diving

Important questions for the medical examination are: Cardiovascular Drugs Does the patient have the cardiovascular health and exercise capacity to safely dive? Is a stress EKG needed to confirm good cardiac fitness? The following classes of cardiovascular drugs will be discussed in relation to medical dive safety and dive safety in general: Lipid-lowering drugs, Bèta-blockers, ACE inhibitors, Central antihypertensives, Calciumblockers, antiarrhythmics, and diuretics.

Peter Westerweel, Medication of internal diseases and diving

The lecture will start by giving a broad perspective on medication use reported by Dutch and Belgian divers in a survey study including more than 1000 Dutch and Belgian divers. This database collected from the DIDIH study (Diving with Disorders in Hemostasis) provides an overview of comorbid diseases and the use of prescription and over-the-counter medication as reported by divers themselves. From this broad perspective, the controversies and changing attitudes regarding the use of antiplatelet and anticoagulant drugs by divers will be highlighted. This will include a discussion of pathophysiology of the hemostatic system in the hyperbaric environment and unique

real-life safety data on this topic. The Dutch national guideline on the assessment of divers using such drugs will be summarized. Another controversial topic in diving medicine, diving with diabetes, will be presented including a presentation of the Dutch guideline on diving with diabetes. Finally, the diving medical considerations will be discussed regarding some prevalent medications used in general internal medicine that are not covered by the other speakers, including drugs used for inflammatory, infectious (including tropical medicine), gastrointestinal, endocrinological (especially diabetes) and pulmonary disease. Examples will include rarities (Can I dive with Infliximab for my Crohn's disease?) as well as common drugs with notable adverse outcomes (e.g. Diclofenac-induced pulmonary immersion edema).

Fees

From € 60 to €205 dependent on profession and requested accreditation (see subscription form).

The fee includes reader, test, certificate, lunch and drinks.

Hotels

Suggestions for nearby hotels are:

Hotel Abcoude

Kerkplein 7, 1391 GJ Abcoude

+31 294 281 271, info@hotelabcoude.nl

Rooms from ca. 85 €/day

Bus connection with AMC: no. 120 and no. 126, 2 times per hour (ca. 20 min in total).

Bastion Hotel Amsterdam/Amstel

Verl. Van Marwijk Kooystraat 30, 1096 BX Amsterdam

+31 (0)20-6634567, <http://www.bastionhotels.nl/nl/onzehotels/amsterdam>

Rooms from ca. 85 €/day

Metro connection with AMC: many times per hour (ca. 20 min in total).