

OSSIGENATEVI

Blog Magazine



The Magazine dedicated to the patients of
Hyperbaric Center of Ravenna





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Oxygenate yourselves!

The Hyperbaric Centre Magazine



In 2010, the Hyperbaric Center of Ravenna started the blog experience: www.iperbaricoravennablog.it, for sharing requests, questions and stories of patients. The basic concept is that: often the solution to the problem of one could be the solution to problems of others.

In 2012 it was born Ossigenatevi! a tool for reading and preserving the most read articles on the blog.

After 5 years Ossigenatevi! update itself. We designed a modern graphic look and improved the variety of topics.

In this issue you can read: articles on updating and innovation about our care paths, our patients stories, notes and experiences about courses and conferences to which our doctors and nurses attended.

Who will be the patient of this number?

Discover it on the last page!

A very special moment

On 1 March 2017 our healthcare assistant Anna retired and we organized a get-together party based on grilled meat.

Anna is a cornerstone of the Hyperbaric Centre and she worked with us for many years. She made herself beloved by the whole staff and patients since the very first day.

Dear Anna, you enriched our days with your cheerfulness and lovely smile and the excellent dishes you prepared us filled our stomachs.

Thank you for everything you made: now it's time for you to enjoy the deserved rest!



Gender Medicine:

a new therapeutic approach
in diseases evaluation

What does Gender Medicine mean? What is the paradigm shift we are moving to which deals with a new gender-specific approach of people's health? When it comes to Gender Medicine, we refer to having a new therapeutic approach in diseases evaluation.

The main purpose is to guarantee every human being, man or woman, the appropriateness of the treatment. Indeed, it's not a medicine about "men or women", but the term "gender" is considered in a broader sense. It goes further beyond the difference between sexual characters and it includes also and especially many unique features deriving both from men and women's different anatomy and physiology and from factors concerning environment, society, education, culture and psychology of the individual. In the last 20 years Gender Medicine aroused increasing interest, after that for a long period of time the difference between men and women had been considered a secondary factor or had been ignored in the development of new pharmacological solutions and in the treatment and diseases prevention techniques identification.

During the last edition of the Trento Economics Festival (1-4 June 2017) on the "Unequal Safety" (La salute disuguale), Dr. Giovannella Baggio held a speech about "Men and women: the unequal treatment" (Donne e uomini: la cura disuguale) where she dealt with this topic.



The International Society for Gender Medicine (IGM)

Gender Medicine means understanding how diseases in all organs and systems occur in both genders, and in particular evaluating gender differences with respect to the symptoms of the diseases, to the necessity of different diagnostic paths and results interpretation, to the differences in drugs response, to the necessity of using different drugs, or even to the differences concerning the prevention of all diseases. Therefore, Gender Medicine is not a new specialty, but a necessary and deserved interdisciplinary dimension of the medicine, which aims at studying the influence of sex and gender on physiology, physiopathology and human pathology.

Dr. Giovannella Baggio is the founder of the first National Study Centre for Health and Gender Medicine, full professor with a Chair in Gender Medicine at the Department of Molecular Medicine of the University of Padua and Director of the UOC of General Medicine of the Padua Hospital.

Dr. Baggio is one of the main Italian experts in the sector and member elected of the International Society of Gender Medicine Executive Committee and claims that *it's necessary to study again the diseases that daily affect men and women: cardiovascular and infectious diseases, tumours, metabolic and neurological disorders and all the specializations, even surgical, because Gender Medicine deals with all medical branches.*

In the paper "From Gender Medicine to gender-specific medicine" some emblematic examples that clarify what we are talking about and give concrete expression to the necessity of a new medical approach are provided.

Life expectancy:

In Italy life expectancy is 79.9 years in men and 84.6 in women (ISTAT, 2014). Actually, **healthy life expectancy** is equal in both genders: the five years of difference are a period of a sick and disabled life, especially for the consequences of the cardiovascular, osteo-articular and neurological diseases (dementia and depression).

Heart attack:

In the last 40 years mortality by cardiovascular diseases (myocardial infarction, stroke) decreased sharply in men but today heart attack is the main cause of death in women. Paradoxically, it is thought that these diseases mainly affect men so feminine gender is nearly absent in epidemiological trials used to describe risk factors and prevention, but also heart attack and therapy symptoms. Furthermore, women can have very different symptoms from men when

they are affected by a heart attack such as neck pain or back pain. Some of them have no pain, but they feel nervous, anxious and have light dyspnoea. These atypical symptoms lead rescuers not to hospitalize patients and not to send them to the First Aid Red Zone; so mortality rate in women is always higher than in men.

Where are we today with gender medicine in Italy and abroad?

The World Health Organization (WHO) has included Gender Medicine in the Equity Act. Cardiology is the most advanced branch in this sense, so much so that the American Heart Association published the guidelines for the prevention of cardiovascular diseases in women. However, this is the first and sole example.

At the European level and even more in Italy, there is still a long way to go. Indeed, the Italian National Institute of Health has a Department of Gender Medicine that is continuously engaged in research activities and many regions inserted Gender Medicine in their Regional Health Plan.

The Italian Parliament voted unanimously a motion on Gender Medicine and two proposals that state the necessity for Gender Medicine to enter the Core Curriculum of the Italian Medicine School and also the Specialization Schools.

Dr. Baggio ends her paper by claiming that: "It's incredible that at the beginning of the third millennium we are called to change our mind about medicine: we must complete our knowledges and we must apply in all branches a gender-specific medicine.

The term Gender Medicine is misleading and it has to be avoided because it seems to refer to a parallel medicine system. We all must found and put into practice a gender-specific medicine.



**Dott.ssa
Giovannella Baggio**





centro cura ferite difficili

Right leg ulcer: Rodolfo asks for an advice

Good morning,
the patient is 64 and the last 7 December she was hospitalized due to an antero-apical infarction with ischemic stroke of cardio-embolic origin caused by apical thrombosis of the left ventricle with aphasia.

She takes Coumadin and since the 23 of January she has been diagnosed with an asleep ulcer to the right leg ankle, characterized by a mixed granulating base, with partial adherent fibrin, which is being treated. Everything began with a simple hematoma, treated for nearly a month with Ematonil.

The patient suffered from venous ulcer to the left leg medial malleolus, which completely healed during hospitalization. When she got visited by the vascular surgeon, it was diagnosed that it is not a vascular ulcer; thus it doesn't deserve revascularization and the cause is mainly attributable to Coumadin. However, according to the cardiologist it can't be suspended, substituted by LMWH or other.

I was asking for your opinion or advice, if possible. I hope I have been exhaustive.

Thank you very much,
Rodolfo

Klarida Hoxha answers

Dear Rodolfo,

Thank you for contacting us and I'm really sorry for your situation.

It often happens that people affected by skin lesions take medicines for other baseline diseases. We often treat patients that have been taking Coumadin for a long time.

Sometimes even because of a small trauma they find themselves dealing with complicated situations just because of the effect of this medication, whose aim, to put it simply, is that of dissolving blood clots.

Hematomas, that anyway are foreign bodies, are often formed. Blood coagulates and creates a space in between the tissues that becomes hypoxic (it doesn't allow the oxygen to arrive). This is the reason why it can get infected and become a skin lesion.

Once the lesion is opened, apart from being the concause, Coumadin becomes the responsible of a delay in wound healing.

Indeed, one of the most important phases in wound healing is the coagulation phase, which in this case fails to occur.

However, it is not appropriate to suspend it because the cardiac problem certainly has its importance. You can heal with the right medications and the correct dressings.

Please, be careful to the curettage. Indeed, it makes the wound bleed because it is hard to recreate haemostasis. It takes some time and probably also the choice of the appropriate medication affects healing.

I don't have any more elements to provide you with many helpful practical tips without seeing the wound.

Best regards,
Klarida Hoxha



Klarida Hoxha

Head of Nursing of the Wound
Care Centre of Ravenna



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Hyperbaric oxygen therapy for the sacrococcygeal fistula

Good morning,
On 6 February 2017 I got a sacrococcygeal fistula surgery with a semi-closed technique. The operation went fine and I have to treat it twice a day. Today the wound is still open (3-4 centimetres) and I was suggested to take 10 sessions of hyperbaric oxygen therapy to reduce the wound healing time. I would like to ask you if the hyperbaric oxygen therapy could help me or not. I have never done it before. Is there any risk that the wound remains open anyway?

I hope that hyperbaric oxygen therapy is useful, because I'm tired of receiving medications every single day.

Thank you in advance.

Best regards,
Sebastiano



Ilaria Succi answers

Good morning Sebastiano,
Thank you for contacting us. I'm so sorry for your problem and I understand it can be really frustrating for you to receive so many medications. I would like to start with the explanation on how hyperbaric oxygen therapy can help improve your condition.

Hyperbaric Oxygen Therapy (HBOT) is a non-invasive therapy based on 100% pure oxygen or hyperoxygenated gas mixtures breathing inside the

hyperbaric chamber. The elevated pressure allows the diffusion of oxygen in blood with a concentration 10 times higher than normal. This allows the development of new blood vessels, the activation of the cellular metabolism, the improvement of the anti-inflammatory effect and the growth of stem cells.

When a wound doesn't heal, the tissues are like "anesthetised": certainly HBOT could accelerate the healing process thanks to the above-mentioned properties, thus reactivating the cellular metabolism which got blocked, accelerating healing times and progressively reducing the frequency of dressing changes.

The number of sessions remains at the discretion of the competent doctor who evaluates the progress on more occasions during the therapy.

There are several studies of proven efficacy concerning the beneficial effects of HBOT on chronic wounds that won't heal.

Furthermore, at our Centre we often find cases similar to yours that finally manage to improve or heal after a certain number of HBOT sessions.

Lastly, I would like to introduce to you the clinical pathway followed by those affected by chronic wounds that won't heal. First, you have a visit with a doctor and nurses who are expert in the field where the general state of health (i.e. concomitant disease, medicines taken, allergies, etc.) and many aspects of the wound (i.e. Ph., type of tissue, TcpO₂ transcutaneous oxygenation, etc.) are evaluated. Then, it is decided how and when to treat the wound with periodical assessments. The number of HBOT sessions, the relative frequency and atmospheres (ATA) are also prescribed.

I hope I've satisfied your request. Good luck!

Best regards,
Ilaria Succi

Ilaria Succi
Nurse of the Wound
Care Centre





Vertebral fracture and Spondylitis: what to do?

Good morning,

I would like to have some advice concerning my mother's situation. She's been in hospital for almost 21 days for a vertebral fracture. She has a pacemaker and she couldn't have the magnetic resonance.

After the CAT, she's been told that it is a spondylitis, which will be officialised after the bone biopsy scheduled for tomorrow. It's almost 20 days that she's bedridden: she has very strong back pains that are controlled by medical therapy.

I would like to have some advice on what to expect in terms of time schedule and above all to know if she might have a different result at your Centre, in case she didn't respond to antibiotic treatment (actually this possibility has been presented to us).

Thanks,
Rita



Claudia Rastelli answers

Dear Rita,

I'm really sorry for your mother's pain.

Unfortunately, spondylitis is a disease that generates strong pains, difficulties in movement and long times of healing.

The pathway undertaken is correct. After the instrumental diagnosis (which is normally taken by nuclear magnetic resonance or scintigraphy with marked leukocytes) you have a bone biopsy to isolate the microorganism responsible for the infection. It is possible to detect the responsible germ also through a haemoculture (in case of sepsis).

In infectious forms, blood tests show an increase of the inflammatory indices (VES, PCR and WBCs) that

are less altered in the non-infectious forms.

At the beginning the treatment is conservative and it includes rest, the use of an orthopaedic bust and the antibiotic therapy targeted against the responsible germ, or empirical therapy if the germ is unknown. In this phase HBOT is recommended in order to enhance the effect of medication and work in synergy.

The benefits HBOT can bring to the treatment of this disease are:

- Facilitate the reduction of the infected site thanks to its direct antibacterial action (bacteriostatic or bactericide, depending on the bacterium) and indirect thus strengthening the antibiotics effects.
- Facilitate the edema reabsorption that causes pain thus obtaining a good anti-inflammatory effect.
- Facilitate the formation of new small vessels (neoangiogenesis) in order to improve the oxygenation of the suffering tissues by helping them to develop their defence potentials.
- Stimulate healthy bone development.

At the Hyperbaric Centre of Ravenna we adopt a multidisciplinary approach where also physical rehabilitation, according to the patient's motor ability and followed by a physiatrist and a physical therapist, is extremely important.

It is important to underline that at our Centre we don't have hospitalization, so our patients are treated as outpatients. This is the reason why, as a preliminary step, the patient will undergo a medical visit in order to have his general conditions evaluated.

The number of prescribed sessions varies according to the gravity of the clinical picture and they are normally taken from Monday to Friday.

Best regards,

Dr. Claudia Rastelli

Dott.ssa Claudia Rastelli

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centro cura ferite difficili

Necrosis in diabetic foot patient: does HBOT work?

Good morning,
My father was diagnosed with a foot necrosis. He's been diabetic for 25 years and it is the first time it has occurred. After all the checks (he doesn't have any bone damage), the doctor suggested him to take a cycle of HBOT.
Do you think it might be useful?
Thanks,
Anna



lation) that facilitate wound healing.
At our Centre we have treated patients with this kind of problem on more occasions. Specifically our pathway includes:

- First visit with doctor and nurse where the both the foot lesion and the patient's general state will be evaluated. During this visit also several exams will be taken in order to understand the patient's state of circulation and the quantity of oxygen that arrives to the damaged tissues.
- Sensitivity tests: often diabetic patients show altered sensitivity. This is the reason why they can't correctly perceive pain. Thus it often happens that they hurt themselves without realizing it. Sensitivity evaluation allows to implement measures (such as the choice of the most appropriate footwear) to reduce the risk of new wounds.
- Hyperbaric oxygen therapy: once it is ascertained that the general health conditions are appropriate for the patient, the hyperbaric therapy chamber can begin. Sessions are taken all days (1 or 2 per day). Both number of sessions and pressure are decided by the doctor.

Alice Casadei

Alice Casadei answers

Good morning Anna,
Thank you for your question. I'm so sorry for your situation and I understand your worries.
Unfortunately, necrosis lesions are really common in diabetic patients such as your father. Indeed, when diabetes is not well compensated, it may cause damages to the small and big blood vessels that carry oxygen and nutrients to our tissues. This leads to suffering in tissues that causes the lesion.
On the basis of your question, I understand that your father has already undergone some medical examinations. If it is not the case, I would recommend a vascular and diabetology visit to check the state of the circulation and the values to keep under control for diabetes.
In any case, if your father's health conditions allow it, hyperbaric chamber could be a valid therapy for the foot, as it has already been suggested.
Indeed, hyperbaric chamber allows suffering tissues to receive more oxygen and blood than what your father normally has. This allows the creation of small and new blood vessels (collateral microcircu-

Alice Casadei
Nurse of the Wound Care
Centre of the Hyperbaric
Centre of Ravenna



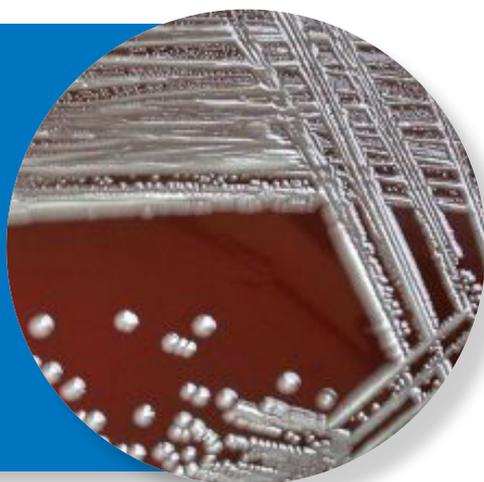


Infection by the bacterium "providencia stuartii"

Good morning,

my father got infected by a bacterium called "providencia stuartii" and the wound hasn't been healing for more than a year. Do you think it's normal? Please, let me know,

Salvatore



Sofia Fioravanti answers

Dear Salvatore,

Thank you very much for writing us. Your trust is really important for us.

I'm sorry for your father's condition and my heart aches for you.

Let's start from the assumption that there are no sterile wounds, because our skin is by itself contaminated by lots of "good" bacteria that inevitably enter the wound. Not all the bacteria are innocuous and some of them, such as *Providencia Stuartii*, indeed can cause late healing.

In your request you don't specify if the bacterium is only on the wound or at a systemic level (that is to say throughout the body). Whichever is the case, I would recommend you to go to an expert in infectious diseases to understand if antibiotic therapy can be useful.

At our Centre we are currently treating other patients with problems similar to those of your father. The clinical pathway includes:

- First evaluation taken by doctors and nurses where the patient's general state of health (glycaemia, haemoglobin, pressure etc.), the wound (if it's red, dirty, how much it leaks) and the problems that impede its healing (veins/artery alteration, alteration of the circulation, pain) will be analysed.
- Evaluation of the antibiotic therapy together with the expert in infectious diseases.
- Antibacterial medications to fight infection directly on the wound.
- Adequate compression therapy, chosen on the basis of the parameters measured during the first visit. Indeed, very often it's not only infections that delay healing, but also "swollen legs" or medications that don't maintain the wound climate in optimal conditions. Dressings reduce these kind of problems.

If these arrangements aren't sufficient and if the wound doesn't improve, it's also possible to add:

- A cycle of HBOT: it's really useful because it helps kill bacteria both by urging white blood cells to "eat" them and by attacking them directly.
- Photobiomodulation: it's a special therapy that consists of a gel application that contains coloured molecules (chromophores) that are activated by a light. In particular, the blue light seeps through the tissues and kills the bacteria, by cleaning the wound.

I hope I have been helpful.

Best regards,
Sofia Fioravanti

Sofia Fioravanti
Nurse of the Wound Care
Centre of the Hyperbaric
Centre of Ravenna





ricerca e partnership

“Il sorriso di Giada” (Giada’s smile Association) and her mother’s strength: together to raise awareness about migrating epilepsy during infancy

Today we want to tell you the story of Giada, a 10-year-old girl affected by a really rare disease, diagnosed when she was only a month and a half old: migrating epilepsy of infancy. To make you understand it, here is Dr. Coppola’s definition, who described it for the very first time in 1995 and again in 2009.

It’s an epilepsy syndrome classified by the International League Against Epilepsy (ILAE) as epilepsy syndrome with onset during early infancy in 2001 (Engel J.J., 2001) and as recognised syndrome in 2006 (Engel J.J., 2006). In 2010 it was renamed by the ILAE Commission Report on Classification and Terminology (Berg et al., 2010) as “Epilepsy of Infancy with Migrating Focal Seizures”. This definition highlights the two distinctive elements: beginning in the (early) infancy and the “migrating” characteristic of the crisis.

According to the original description, it is characterized by the appearance in the first 6 months of polymorphic partial crisis (focal). They have a strong drug resistance and gradually a progressive deterioration of the neuropsychological and motor functioning occurs. In most children, it is associated to a lack of growth of the head circumference.

Giada’s disease brings her to have a tetraparesis and a psychomotor retardation.

Her mother Pamela heard about the Hyperbaric Centre of Ravenna when Giada was just 3 months old and she has followed us over the years on our Facebook page.

In February this year she started her therapeutic pathway. I had the opportunity to meet both Giada and Pamela at the Centre. As their case manager, I described them what would occur through the interdisciplinary pathway.

After just 2 weeks, her family noticed great impro-



vements. Pain relieved and her mobility improved as well. Indeed, by turning her into a prone position, a motor response occurred: Giada tried to raise the head.

The therapeutic pathway consists of 2 weeks of therapy nearly every 3 months and the goals to achieve are:

- Improve sensory receptors functionality and afferents of the sensory-motor system.
- Help rehabilitation to improve posture control and encourage psychomotor development.

At the Hyperbaric Centre of Ravenna, Giada is followed by a physiotherapist and once a week she takes swimming rehabilitation.

Giada enjoys her family, parents and friends’ constant support; however Pamela often encountered many difficulties during these years because disability is not always helped and understood.

This is the reason why she founded the Onlus Association “Il sorriso di Giada” (Giada’s smile). It consists of a group of volunteers that work together with passion and commitment by organizing workshops dedicated to children with disabilities and their families but also open to children who don’t suffer any disease.

The main goal is to place them side by side to make them fully aware of both problems and difficulties that children with disabilities have to face every single day, in order to create an environment of cooperation and sharing against prejudices of the society we live in.

Giusy Durante
Nurse of the Wound Care
Centre of the Hyperbaric
Centre of Ravenna





ricerca e partnership



IS A MEDICAL CERTIFICATE OF FITNESS NECESSARY ALSO FOR SCUBA DIVERS? Dr. Scacchetti joined our staff

The staff of the Hyperbaric Centre of Ravenna boasts a new member, Dr. Scacchetti. Graduated in Medicine and Surgery, with a Specialization in Sports Medicine, his passion for the world of diving started when he was in University. In the next months he will work together with the doctors of the Hyperbaric Centre of Ravenna. We interviewed him to know him better.

You will become part of the staff of the Hyperbaric Centre of Ravenna. Which will be your role?

I'm really happy to start my activity at the Hyperbaric Centre. It's an exciting and dynamic environment. I'll deal with visits and the issue of the certificate of fitness for competitive sports, such as underwater activities. There are a lot of swim schools that organize courses to obtain the scuba divers patent. In these cases also a certification is required. It is not only for those who perform agonistic activity: indeed, also those who want to practice recreational diving can take the same visit to be more comfortable in their own physical conditions.

You have a degree in sports medicine and a great passion for diving. Who encouraged you to take this specialization?

I graduated in Sports Medicine in 1985 with a dissertation on gas embolism in scuba divers. Arterial gas embolism is a serious decompression disease that often occurs in scuba divers, which

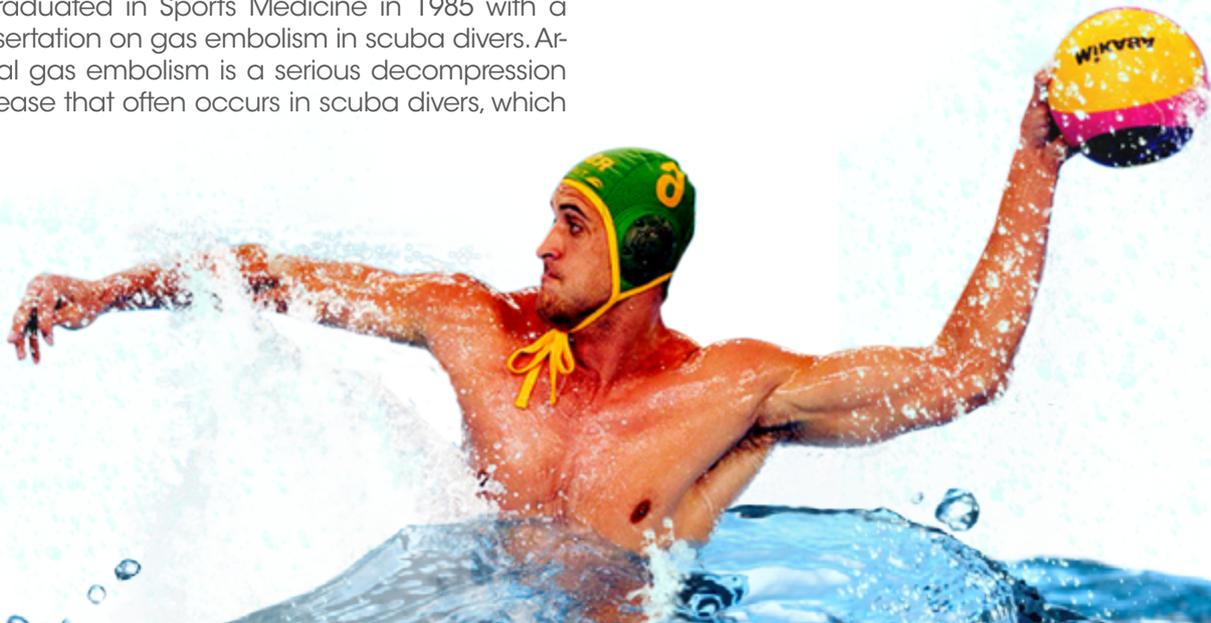
is characterised by gas bubbles presence in blood circulation. In my dissertation I examined in depth both causes and emergency treatment of this disease. The reason why I chose this field of specialization is my great passion for any kind of sport: in other words I combined business with pleasure. As regards the world of diving, everything began by an interest of scientific-academic nature, which developed into a great passion not only professional, but also personal. Indeed, I obtained several licenses and I'm fond of diving.



As a sports medicine doctor, what do you intend to do and what would you like to do for the lovers of diving at the Hyperbaric Centre of Ravenna?

It is certainly important to take sport suitability tests. In addition to this, I would like to provide healthcare assistance directly in the field both to scuba divers and/or underwater staff, in order to ensure that the activity is carried out in complete safety and intervene if necessary. During my career I have worked as a sports medicine doctor in remote places, such as Maldives and Zanzibar, where divers needed healthcare and visits.

Dear Doctor, welcome on board! We wish you good luck for your activity here at the Centre.







THE PATIENT OF THIS NUMBER

Stefano for the tenth years he did his underwater qualifying examination at our center.

we are happy to ad been your choise for all this years, good dives!



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