Oxygenate yourselves! - The Hyperbaric Centre Magazine

N. 22 – July and August 2015

In 2010, the Hyperbaric Centre of Ravenna opened the blog www.iperbaricoravennablog.it to share the stories of patients because we believe that the solution to a problem for one patient may be the solution for many others. This experience led to *"Oxygenate yourselves!"* the blog magazine of the Hyperbaric Centre, a new tool to read and save the most-read stories of the blog. This number contains the articles mostly read in July and August 2015!

Enjoy the reading!

Interstitial cystitis: After 20 sessions of hyperbaric therapy, Francesca feels better

Francesca is 37 years old and in February she came to the Hyperbaric Centre to cure a bad interstitial cystitis which affects her life since she was 21 years old.

Almost all women over age 20 have had at least once an episode of cystitis and knows how annoying, especially in summer time when it becomes difficult to enjoy even a simple swim in the sea.

In most cases, cystitis derives from bladder infections caused by bacteria that usually live in the intestines. Interstitial cystitis is, however, something more: it has the same symptoms of bacterial cystitis (pain, urgent and frequent urination that can be up to 60 times a day in severe cases), but it is a real disease, chronic bladder that does not respond to conventional therapy with antibiotics and can lead to a much greater suffering.

The causes that determine it are still unknown, but it can occur after a triggering event, a urinary tract infection, a surgery, a viral illness or a traumatic event.

When Francesca came to the Hyperbaric Centre, she had all the symptoms of interstitial cystitis at an advanced stage: she could not hold back the pee and every time she went to the bathroom, felt a strong pain; this happened even 60 times a day, especially at night and to rest well for her had become almost impossible. Because of the burning, she suffered much even when making love and despite the antibiotic therapy, she has not solved this problem for many years and now it is seriously compromising her quality of life.

After a first visit with Dr. Longobardi, it was possible to assess the situation, Francesca started with us a path to reduce inflammation that involves sessions of Hyperbaric Oxygen Therapy (HBOT) in combination with FREMS therapy and massage therapy with the Spiro Tiger technique.

The first cycle of HBOT that Francesca underwent implied 20 sessions in the hyperbaric chamber, which are following medical recalls of 10 sessions every three months.

At the end of the first cycle of Hyperbaric Oxygen Therapy, Francesca could see major improvements: the pain and the urgent need to go to the bathroom decreased and the 60 times a day

she had to run to pee decreased to the normal 10. Now she is determined more than ever to continue her path and we wish her good luck with the hope that she is getting better!

Post-surgical wounds that will not close: what to do?

On May 21, 2015, my mother underwent a bilateral mastectomy with partial left axillary dissection and immediate reconstruction with final implants. On June 17, she underwent another surgery for a bilateral escharotomy.

The histological exam reported "...lobular tumor infiltrating left breast of maximum diameter of 2.4 cm with 10 lymphnodes free of metastatic repetition ..." We are very concerned because this Escharotomy is not going well, the heat does not help and should also begin TH hormone to continue medical treatments.
And here my request to entrust her with your care: my mother is healthy, autonomous and has a good way of life, however, she is diabetic and hypertensive and treated with oral hypoglycemic drugs. The doctors told us about problems related to the microcirculation due to diabetes. I hope in your feedback.

Dr. Nedjoua Belkacem responds

Dear Daniela, I am very sorry for the hard time your mother is going through, who in addition to the disease must face complications that earned her great pain and discomfort.

It is not easy to express an opinion without assessing the situation in person and having a clear clinical picture. From what you describe, I understand that we are facing a (bilateral) surgical wound dehiscence related to past mastectomies.

This dehiscence, which translates to a difficult healing, appears to be due to the presence of necrotic tissue, that is necrosis of the flaps (you tell us about a escharotomy).

Necrosis is the progressive degeneration of cells in a tissue, and local complications may follow such as infection, hematoma, ischemic tissue suffering, the introduction of steroids in the peri-prosthetic pocket. Other factors such as cigarette smoking can interfere with the healing processes slowing them and increasing the incidence of complications.

Not knowing the situation well, I quote the only complication you mention: diabetes, which causes alterations of small vessels and reduces our immune system (acknowledged that it was already excluded the possibility of a recurrence of the disease by analyzing a biopsy on injury and completing the exam with an ultrasound or an MRI, and monitoring tumor markers).

We could help your mother by suggesting hyperbaric oxygen therapy that, thanks to its anti-bacterial, anti-inflammatory and anti-ischemic effect, favors the resolution of necrosis eliminating the causes that determine it; also, it allows tissue healing with oxygen by stimulating the mechanisms that determine their healing.

At the Hyperbaric Center, there is also the Difficult Wounds Care Center where we follow people who suffer from ulcers with difficult healing and where we perform advanced medications.

If interested, you can contact our office to book an initial visit to the number (0039) 0544 500152. Thank you for your interest and I wish your mother a fast recovery.

Dr. Belkacem Nedjoua

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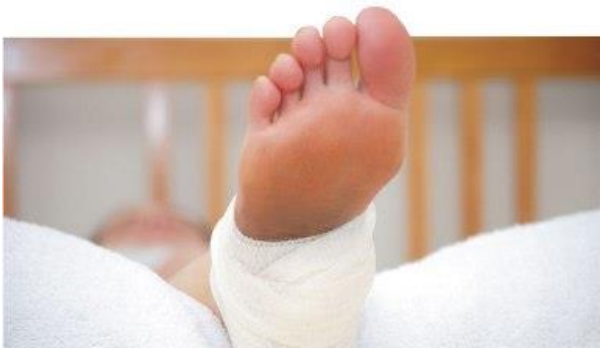
How to treat the Martorell's ulcer



Good evening, I contact you for information on how to treat the Martorell's ulcer.

My father, chief of gynecology and obstetrics, in December 2014 suffered a shock trauma to the ankle, below the anklebone. From here, the ulcer started: initially was the size of a 2 euro coin, then it has grown, with subsequent clinical interventions, until it reached half of the leg. Now the wound is completely filled, however, it has a part of necrotic surface tissue (to be removed) and a part of healing light tissue around which an infection developed due to bacteria localized in those areas.

He is currently hospitalized and receives treatment for this injury with medication (prostaglandins) and antibiotics because of the infectious process. On Thursday, he has to undergo a minor operation to clean the wound tissues, to eliminate any necrotic tissue and restart the healing process.

I am writing to find out what is the better center, yours or another one, for the treatment of this type of injury.

Is it possible to send images of the wound in order to make you realize the situation? In general, is there a special care or treatment to accelerate the healing process?

Confiding in your reply and available for any further information, cordial greetings.

Michele

Klarida Hoxha, coordinatrice infermieristica CCFD, risponde

Hello Michele, I'm sorry for your dad and the tortuous path he is forced to endure.

The Martorell's ulcer appears in people who suffer from high blood pressure poorly controlled. Hypertension causes the alterations of cutaneous capillary structures resulting in increased peripheral resistance and decreased perfusion pressure. It only takes one microtrauma to determine an injury difficult to heal.

First of all I suggest you an ultrasound arteriovenous to investigate the state of the circulation. During the first visit to the Hyperbaric Centre we also evaluate the patient from a holistic point of view and perform various non-invasive exams to build an overall picture of the situation of the wound, which is then deepened with other tests such as blood tests.

The Martorell's ulcer is very painful and for this reason it is intolerant to any dressing or bandage, the choice must therefore be evaluated very carefully so to not cause discomfort to the person.

At the Hyperbaric Center of Ravenna there is the Difficult Wounds Care Center (CCFD), which is a second level center of territorial reference where we deal with all types of skin ulcers with delayed or unmanageable healing. These lesions are treated with bandages medicated with zinc oxide, ichthyol, coumarin (depending on the situation) and hydrogel dressings or fat gauze in order to avoid trauma during dressing.

If you want to send the photo to have another opinion, I invite you to contact us again and leave your email so we can get back to you. Write to Klarida Hoxha, head nurse of the CCFD, at segreteria@iperbaricoravenna.it.

I send a warm greeting and a good luck to your dad, with his work he has helped many people to feel better and we hope it will receive the same tender care he needs now. Klarida Hoxha.

Venous insufficiency ulcer: how to cure it?

Good evening, my mum has an ulcer on her left leg in an area become darker because of after-effects of a deep bilateral thrombosis after a long plane ride made more than twenty years ago (in 1992). After the critical stage she has always been treated with compression stockings and high drugs like prism.

Few years ago, ulcers of small dimensions appeared, sometimes cured with fatigue, but always closed. Now there is an ulcer that does not seem to heal, rather it is expanding exponentially in the dark area of the leg. She makes weekly dressings disinfecting the affected part with Betadine and putting Doderm, which damaged also the surrounding part of the skin. I ask for an advice and possibly an appointment. Thank you very much. Anna

Serena Giannini, nurse, responds

Dear Anna, I am sorry for your health problem that worsened in recent times and I hope I can be of help.

Deep vein thrombosis (DVT) is due to the formation of a thrombus, which is a blood clot, that blocks wholly or in part a point of a vein in the deep system by altering the circulation and increasing the pressure in the area. This causes swelling and pain; also, the tissues around the thrombus can bring up the limb darker because it suffers a lack of oxygen at local level.

In your case, it is likely that the posture taken during the long journey, the altitude reached by the plane and probable risk factors such as a genetic predisposition, have led to the formation of thrombus.

The therapy with compressive stockings to help the venous return is correct, but it is good practice to check periodically the circulation through Doppler ultrasound of the lower limbs to evaluate how it evolves over time.

Perhaps the stockings she has worn until now no longer respond to the needs of the current situation. This could be the reason for the swelling of the legs and the formation of ulcers, especially in the darker area that is the most suffering.

Compressive stockings are essential for prevention, but the presence of ulcers make it necessary to make a compression bandage to restore the integrity of the skin.

To choose what is the most appropriate medication we need to see and evaluate the wound: the appearance of the wound bed, the margins, the surrounding skin and so on. Probably the dressing done up to now has worsened the situation because it was too occlusive; this greatly increases the risk of infections with a relative worsening of ulcers.

I invite you to come to our center for an accurate angiological visit, for a venous and arterial Doppler ultrasound of the lower limbs and to have the injuries assessed by our experts in wound care to advise the best treatment and packaging of the right pressure bandage. It is indeed a compression bandage the most important factor for treating ulcers like yours, it is even more crucial than the same dressing.

If you want to contact the Hyperbaric Centre you can call the (0039) 0544 500152, we will be happy to help you be concretely. I wish you a speedy recovery! See you soon, Serena Giannini

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Sore knee because of prosthesis surgery: is it infection?

Dear Doctor, I am writing to ask your advice for my girlfriend's mother who has been operated on 11/12/2014 for a total prothesis on her left knee.
After the operation, she had some problems: pharyngitis not immediatley recognized and treated with antibiotics after 4 days; a month after she had a urinary infection and two bronchitis.
On February 3, 2015, she underwent a release in the knee under anesthesia due to adhesions. After a lot of physiotherapy today, her mother still suffers severe pain and low mobility of the knee. Sometimes it is very hot to the touch.

Given the infections after surgery, is it possible that bacteria have affected the prosthesis? Would you recommend a bone scan with labeled leukocytes? My girlfriend has asked doctors who treat her mother and the answer has been that it is too early to make this examination, because usually it is done after a year.
Since surgery, the only tests that they did do were CBC, ESR and CRP. The ESR was 29 out of a maximum value of 20, the PCR was normal with the value of 0.12 on a max of 0.50.
What advice can you give us? Waiting for your kind reply, I thank you in advance.
Yours Sincerely

Dr Andrea Galvani responds

Hello Christian, thanks for writing. From your question I understand that at the moment, fortunately, there is not a diagnosis of "infection of the implanted prosthesis" yet.

If this suspicion increased with time, to get to a definitive diagnosis would be required a multidisciplinary approach: a clinical examination, another laboratory indices control and imaging techniques.

I take this opportunity to give you more information on this type of problem: the infection of the prosthesis is a complication that rarely happens and, unfortunately, often manifests when there are already other risk factors such as diabetes, cigarette smoking, vascular disease or other chronic diseases.

The therapeutic approach adopted for this type of problem is almost always multidisciplinary and combined: it implies medical therapy (specific antibiotic therapy) and surgical treatment (eventual reclamation). It could be also combined with a series of Hyperbaric Oxygen support (usually 15-20 sessions on a daily basis and 90 minutes per session), the feasibility of which must be assessed case by case during a visit by an hyperbaric doctor.

I hope I have been helpful to clarify certain aspects and I hope that your problem will be resolved as soon as possible. For any clarification on Hyperbaric Oxygen Therapy or for any other question do not hesitate to call us to (0039) 0544 500152.

Best wishes, Dr. Andrea Galvani

Degree in Medicine and Surgery at the Alma Mater Studiorum University of Bologna.

Trimalleolar fracture on right ankle: which path to follow for the best recovery?

Good morning,
on June 5, I had a decomposed right trimalleolar fracture. I have been subjected to surgery on June 9 for reduction and interfragmentary screw fixation + fibula plate at the peak of the medial malleolus, the reduction of the third post fragment. I was put in a plaster cast for 40 days in full discharge. On July 21, I should remove the plaster and then put a brace or new plaster cast for another 40 days. I am worried about the recovery of ankle mobility, I am afraid of being unable to walk normally or to

remain crippled. I wonder which path to follow for the best functional recovery.
Thanks for the attention.

Paola Mengozzi, physioterapist, responds

Dear Emanuela, thank you for having written to the Hyperbaric Centre for your ankle problem.
First, let me reassure you: in my work experience, I have seen other injuries similar to yours and all have taken, more or less depending on the case, a good mobility of the ankle and returned to their former life, walking independently and without limping.
It is also true that we are not all equal and that some recovery may be longer than others: someone comes back to do exactly what they used to do before, someone else instead has to live with some limitations. All this depends on many factors, both personal (character, the person's age, lifestyle before the accident, body size, and so on) and related to the state of health.
The trimalleolar fracture tends to have functional outcomes, to avoid and / or minimize them; the rehabilitation has a very important role.
To be able to suggest the best path to follow, it would be good to know what the doctor told you on the control of July 21.
Usually at the Hyperbaric Centre, the rehabilitation consists of:

- Rehabilitation in the gym and in water, with passive mobilization, cautious but progressive flexion-extension until arriving to movements of supination and pronation
- Lymphatic drainage of the lower limb with Vodder method
- Scar detachment
- Magneto therapy (if the material used to reduce the fracture allows it) or sessions of hyperbaric chamber to encourage the formation of bone callus

It might be useful to make an appointment with the physiatrist Dr. Francesco Fontana, who collaborated with the Hyperbaric Centre of Ravenna: I'm sure that if you follow his recommendations you will heal better. You can always contact him through the Secretariat of the Hyperbaric Centre to (0039) 0544 500 152.
Best wishes, Paola Mengozzi

PFO: are there contraindications for apnea?

Hello doctor, I am a student of Marine Biology. I found through a CEUS the presence of patent foramen ovale with significant right to left shunt at baseline (high number of micro-bubbles). The hyperbaric doctor advised me not to take any action because the foramen is too large and therefore an operation would not eliminate the risk. I wanted to ask whether the presence of the foramen also compromises the activity of apnea. Thank you, Martina

Dr Luigi Santarella responds

Dear Martina, thanks for your attention. I am happy to report that you can continue to dive in apnea (and only in apnea), with maximum security (relating to patency foramen ovale or PFO).

The foramen ovale is a channel of 2.5 cm that we all have between the right and the left of the septum that divides into four rooms our hearts.

Normally, the channel is covered by a membrane that closes it; in the case of patency (Patency of the Foramen Ovale) the membrane is lifted (mostly under stress) and let the blood pass from the right (venous blood that comes from the periphery) to the left part (oxygenated arterial blood and that goes to the periphery). In practice, part of the venous blood entering the arterial blood without being filtered by the lung. The extent of the problem depends on how much blood bypasses the lungs (ie how serious the shunt right left).

You may need to close it to scuba diving. The hyperbaric Center of Ravenna we consider necessary to close only when there are 3-4 critreria on a scale of six:

previous cerebral ischemic or due to decompression accident or

instrumental evidence (CT, MRI, PET) of ischemic brain damage,

thrombophilia risk (positive homozygous for Factor II, Factor V, Factor MTHFR, homocysteine, protein S)

- Transcranial Doppler positive for passage of bubbles at baseline,

- Transthoracic echocardiography positive for atrial septal aneurysm

- Transesophageal echocardiography positive for a PFO with dimensions larger than 4 mm (the latter investigation, being invasive, is performed only in preparation for surgery of PFO closure)

For apnea, however, the patent foramen ovale is not a contraindication.

During the rapid ascent (in apnea), the PFO is a safety valve for the blood that - on the bottom - it was centralized in the lungs (hyperflow central or blood shift). The discharge of the blood from the lungs is thus, more rapid during the ascent towards the surface.

Some champions of deep diving have the PFO. The Italian Federation of Sports Doctors authorizes the release of the suitability for competitive apnea in case of PFO. On the other hand for the scuba diving it is a contraindication (up to six months after the possible closing).

If you want to book a visit or the advice of a cardiologist experienced in diving medicine do definitely reference to Sant'Anna School of Pisa, Master in Underwater and Hyperbaric Medicine. The director is the distinguished cardiologist Prof. Antonio L'Abbate. A researcher and lecturer on the subject is dr. Claudio Marabotti (Head of Cardiology Hospital of Cecina, Livorno). You can find all contacts on the web.

Best wishes, Dr. Luigi Santarella

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Tingling arm after a week from immersion: do I have to worry?

Hello, I contact for advice. On Tuesday, June 2, I dived in ARA for about 45 minutes. The maximum depth reached during the dive was 31 meters (for few minutes), but the average depth was about 14.4 meters. The lift was made respecting the 10 mt / m (even for more) and was made the safety stop at 6 meters for 3 minutes. Last night, after a week from immersion, I started to feel a tingling in my left arm, and this morning it was numbing. I have no other symptoms. I thought it was an overlapped nerve because it is been a week from immersion and I have not made air travel or hiking in the mountains. Do you think I have no reason to worry, or it would be better to make a medical checkup? I thank you in advance.

Dr Luigi Santarella responds

Hello Fulvio, in your story is not specified if during the dive and right after you have had symptoms of some kind.

If you manifested any signs and / or symptoms correlated to decompression sickness while diving and within the following 48 hours, until proven otherwise, you have to consider the onset of decompression sickness. Symptoms may include: skin redness, weakness, numbness, paralysis, loss of balance, change in personality, unequal diameter of the pupils, speech disorders, cough or shortness of breath, collapse or loss of consciousness, itchy skin, joint pain, extreme fatigue, tingling, general malaise, inability of bowel control, headaches, nausea and dizziness.
In this case you need to visit a underwater and hyperbaric medicine specialist .

However, as it seems from your story, that up to six days from immersion you were feeling good, I do not hypothesize decompression sickness. In fact, the onset of symptoms after forty-eight hours from a dive makes it very unlikely diagnosis of

decompression sickness.
In these cases, you might think of a radiculopathy, arranging in water incorrectly, associated to physical stress caused by dressing in preparation for the dive, can cause inflammation of nerve roots exiting the spine and cause symptoms such as pain, numbness, tingling and weakness along the nerve.

I suggest you to have a physiatric or rehabilitation visit performed by your doctor or at our Centre where the brilliant Dr. Fontana works. This visit, associated with an X-ray of the spine, with the aim to evaluate the anatomy and the presence of bone changes and possibly an MRI of the spine to study the nerves and soft tissues, may clarify the origin of your symptoms and allow you to set a proper rehabilitation therapy and, if necessary, drug therapy support.
Best wishes, Dr. Luigi Santarella

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