

share^{for}care

A PATIENT'S STORY

Maria's journey
to happiness

RECIPE

Spring is
on a roll!

HEALTHY LIFESTYLE

Treatment days?
Feel-good days!

TRAVEL STORY

NELSPRUIT

South Africa - On the prowl for adventure



Dear readers,

As you probably know, not everything we like is good for us — and not everything that's good for us is something we automatically like.

For example, dialysis days are good and they're also essential, but they can sometimes be a pain because they take time and energy out of everyday life. But you can make the most of your treatment hours as a valuable

time for doing things! This edition of *share for care* includes a few tips that we've put together to help you get through the dialysis day feeling well, relaxed, and fresh — ranging from meditation practice and early-morning exercise to smart time management. Like so often in life, what matters here is how to find the right mixture of activity and relaxation. We can only really enjoy a rest properly if we've previously been on the move or if we've been exerting ourselves. Having a task or a project, no matter how small it might be, is not only helpful for giving a long treatment day some structure. It's also a good way of giving life as a whole a purpose and direction and staying on track during difficult times.

A good example of this is the impressive story told by Maria Limbania Chaguendo from Colombia, presented in this issue. Maria started needing dialysis four years ago, but she's successfully summoning up physical and mental strength not only to look after her seven children but also to take care of frail and lonely fellow patients. And this task in turn gives her energy and a reason to look after herself and her own health the best she can.

Taking care of yourself with a condition like renal failure also means always paying attention to information about the processes that go on in your own body. The special topic featured in this issue explains everything important about phosphate — a substance that shows an increasing concentration in the blood during renal disease. You can find out how to have a positive influence on your phosphate levels yourself, partly by keeping to the right diet.

And if you're still looking for a really good reason to stay on the ball in everyday life — e.g., keeping treatment appointments and paying attention to a low-phosphate diet — we've also got another suggestion for you. What about going on a real adventure again? Stalking big game, spending the night in a lodge in the legendary Kruger National Park, watching lions, giraffes, and zebras in the wild? You can do all of that in South Africa, with holiday dialysis in beautiful Nelspruit, only just under an hour away from the Kruger National Park. So if you've suddenly developed a yearning for the wilderness, the travel story in this issue will give you all the details you need to start mentally getting ready for it.

We wish you lots of fun with this new edition of *share for care* and lots of luck with your personal projects, no matter what they are. Please write to us if you have any questions, comments, or ideas via dialysis@bbraun.com. Sending us a postcard from South Africa would be great!

Your editorial team,



Christopher Boeffel



Martin Kuhl

share for care

04

NEWS

Learn more about a new life for old dialysis filters and other science-related scoops.

12

TIPS

No gym required: Four simple ways to stay in shape for your everyday life.

06

SPECIAL TOPIC

Good to know: Why keeping an eye on your phosphate levels is not in vain.

14

TRAVEL STORY

Into the wild: Discover Nelspruit and the natural, untamed beauty of South Africa!

18

HEALTHY LIFESTYLE

Finding the right balance: How to make treatment days your new feel-good days.

10

PATIENT STORY

How Maria keeps enjoying life: By looking after herself and helping other people.

16

RECIPE

Going green: Try these delicious vegetable spring rolls on spinach.



DIALYSIS FILTERS FOR CAMEROON

An Israeli company has developed a water-filtering system using disinfected and recycled dialysis filters that is already being put into operation in the fight against cholera in Cameroon in Central Africa.

The purification systems made of discarded dialysis filters are inexpensive, do not need electricity, and at 15 kg are also light enough to be easily transported to remote regions. They filter bacteria and the tiniest particles out of water, and thanks to their high medical standard, they can produce pure drinking water even from heavily polluted rivers or wells.

UREA-ABSORBING NANOMATERIAL DISCOVERED

A lot of research is currently being undertaken to develop a portable artificial kidney which would replace the need for hemodialysis. However, one of the challenges is how to remove urea, which easily breaks down into a toxic substance called ammonia. Up to now wearable artificial kidneys have been very large to allow the storage of urea and ammonia until it could be disposed of.

Scientists have now discovered a new material that can store urea and prevent it from breaking down. MXene, a titanium carbide material absorbs urea between the nanometer thin layers. It is hoped that this new discovery could help to develop an artificial kidney that is small enough to wear in the future.

The first promising approach to a genuinely portable artificial kidney!

HELP FOR YOUNG PEOPLE WITH PEANUT ALLERGIES

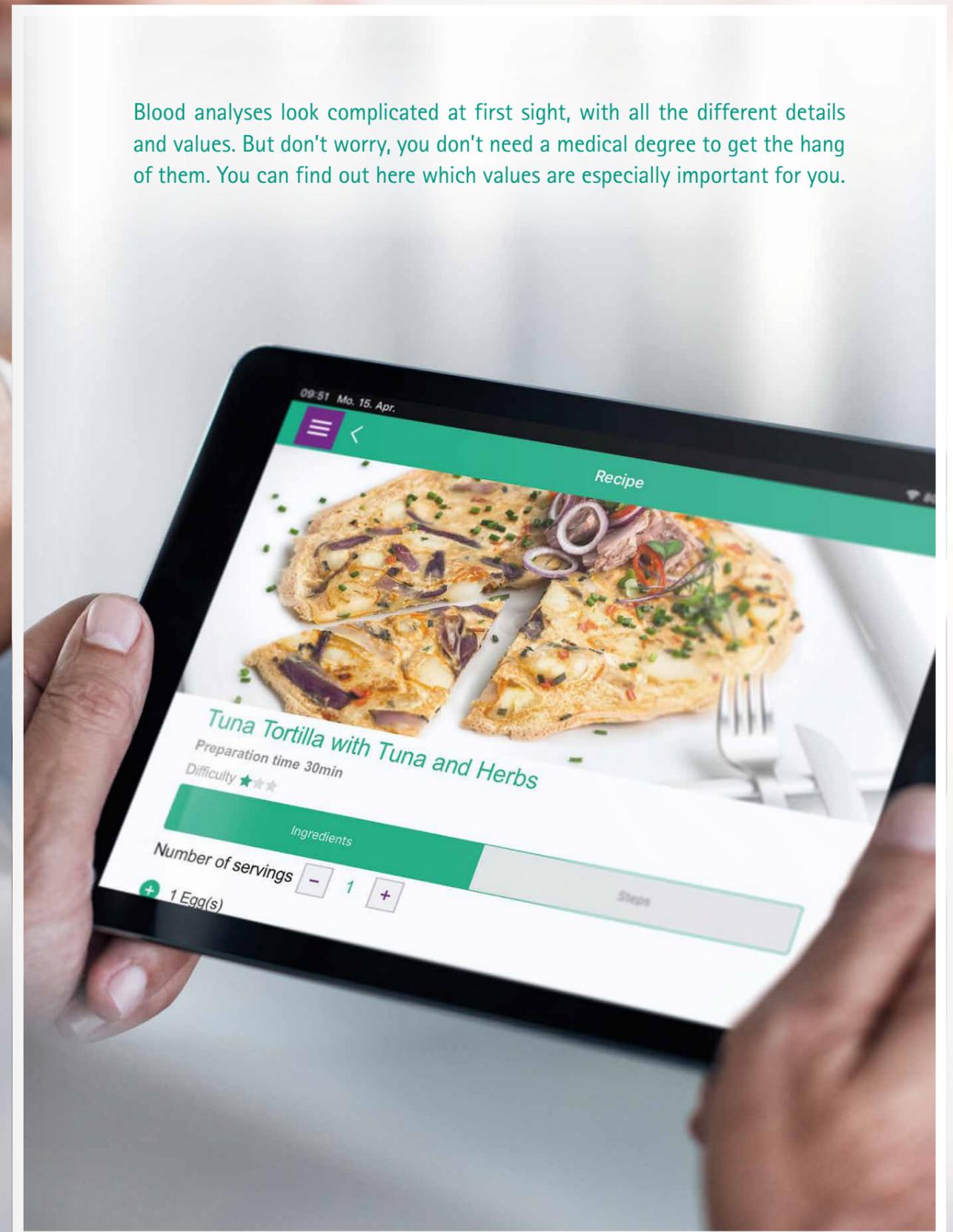
For people with a peanut allergy, even a single bite from a cookie can be life-threatening. Traces of the legumes are contained in numerous foodstuffs, so it's difficult to completely protect children in particular from coming into contact with the allergen. A team of researchers in California have now succeeded in increasing tolerance to peanuts in children aged four to 17 by training the immune system. After taking capsules with low-dose peanut protein for a year, two-thirds of the study participants became able to tolerate two peanuts or more. Children apparently responded particularly well to the hyposensitization treatment using peanut protein AR101, although in adult participants the response was lower. The agent may receive approval as a drug in the USA as early as 2019.



UNDERSTANDING
YOUR

blood values

Blood analyses look complicated at first sight, with all the different details and values. But don't worry, you don't need a medical degree to get the hang of them. You can find out here which values are especially important for you.



PHOSPHATE

PART 2

WHAT IS PHOSPHATE?

Phosphate is a salt of phosphoric acid and is an important component for producing energy and forming bone. We absorb it from food along with proteins, and it is stored in the body in combination with calcium in the form of calcium phosphate.

Excess phosphate is normally excreted by the kidneys – but that no longer happens in the case of chronic renal failure. The phosphate level in the body consequently rises. The normal value is a blood phosphate level of between approximately 0.84 and 1.45 mmol/L. That's the value that dialysis patients should also reach if possible. At 1.6 mmol/L or higher, evidence shows there is an increased risk of disease and mortality, especially cardiovascular disease, that is directly related to the phosphate level.

WHAT PROBLEMS DO HIGH PHOSPHATE VALUES CAUSE?

At first, you don't notice that the phosphate concentration in your body is too high. Phosphate is one of the "silent killers" – too much of it does not create any acute symptoms and even acutely elevated phosphate levels are probably not harmful. But over a longer period, phosphate causes severe damage in the body. The first symptoms may include itching, headache, and muscle pain, for example. Prolonged excess phosphate values are associated with a high risk of osteoporosis, vascular sclerosis, and heart diseases.

Since dialysis treatment can only remove some of the excess phosphate, additional measures are needed to control the phosphate blood level. These include a low-phosphate diet on the one hand and daily medication with drugs known as phosphate binders on the other. Protein-rich foods such as meat, fish, and milk products tend to contain a lot of phosphate. But simply

leaving these out would not be such a good idea, as they are particularly valuable foods for dialysis patients due to the protein they contain. Adequate protein intake is important for nutritional status.

An adult dialysis patient would need approximately 30 hours of dialysis per week to excrete all of the excess phosphate! That would be difficult to achieve, however, and being careful about phosphate intake is therefore important.

It's better to have a varied but phosphate-conscious diet. Alternatives are available for lots of foodstuffs that are particularly high in phosphates: for example, cheese spreads and hard cheese have high phosphate levels, while Camembert and cottage cheese are better alternatives. Our Renal Care Compass app contains a food table for you. *Scan the QR code to download the app:*



iOS



Android



Liquid dairy products such as milk and yoghurt should only be taken in small quantities, but they can be replaced with cream diluted with water.

No more than around one gram of phosphate per day should be consumed. Foodstuffs that contain large amounts of phosphate also include nuts, muesli, and whole-grain bread. You should completely avoid artificially produced phosphates in fast food and ready-made meals, and you can identify them using the E numbers on the list of ingredients. They are easily absorbed by the body and therefore especially damaging. Particularly for renal patients, preparing as many meals as possible freshly and using natural products are therefore top priority for keeping phosphate intake under control.

HOW DO PHOSPHATE BINDERS WORK?

Phosphate binders are drugs that bind phosphate in the bowel so that it can't be absorbed from the food into

the bloodstream. They have to be taken immediately before or during a meal so that they can mix with the food in the stomach. Your medical team will discuss the dosage of phosphate-binding drugs with you and advise you on how to adjust intake to your own diet.

The number of tablets that need to be taken every day can be quite high. The bound phosphate is excreted almost completely. You can also ask your treatment team about the patient education program (PEP), which offers entertaining ways of learning how to estimate the phosphate content of meals at a glance so that you can adjust the phosphate binder dosage individually to the amount of phosphate consumed. It's also helpful to use a food diary to keep a note of your phosphate intake regularly. To do this, you can simply use the free Renal Care Compass app on your smartphone.

—
PHOSPHATE BINDERS DO NOT REDUCE THE BLOOD LEVELS OF PHOSPHATE!
—

MARIA BRAVA THE STRONG



Maria Limbania Chaguendo,

aged 59, has been suffering from renal failure for four years. She is a patient at the Colombian B. Braun renal care center in the city of Popayán and has become a role model for many of her companions. This is her story.

Renal failure is a severe disease all over the world, including in Colombia. But for patients like Maria Limbania Chaguendo, who as a widow has had to look after her seven children all on her own for decades, that's no reason to lose courage or interest in life. She is finding marvelous ways of coping and taking control — along with support from special assistance services such as the patient transport service and food donations.

Maria lives in a simple house in a neighborhood called Túnel Bajo, not far from Popayán's renal care center. Despite her condition, she is still continuing to work whenever she gets a chance — for example, doing

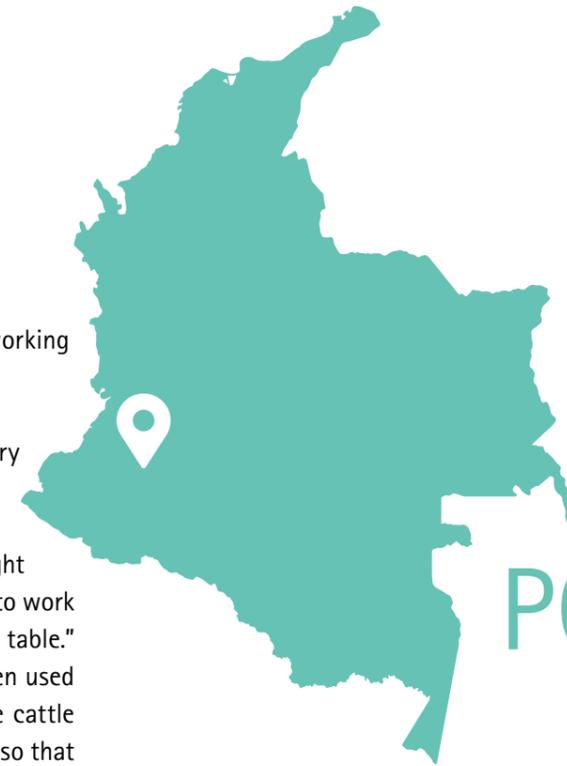
laundry at family houses or working as a porter unloading trucks.

"At the age of 59, I feel very strong. We're made of tough stuff in my family," she laughs. "Maybe because my father taught us all very early on that we had to work in order to have food on the table." Ever since her teens she has been used to getting up early, to drive the cattle to the pasture and gather wood so that her mother could light the oven.

When Maria's disease started four years ago, it began with severe headaches and nausea. Her brother came specially from a different town to look after her, but her health didn't get any better. It was only the doctors at the hospital in Popayán and dialysis treatment that helped her. "I woke up in hospital and the doctors explained to me very clearly what had happened to me. And then they told me I would have to start dialysis, because my kidneys were not working." As she recalls, her reaction was very calm from the start.

She thought it was best not to deny the facts but to accept them as quickly as possible and look to the future.

She makes a point of attending all of her dialysis sessions, because she knows how important they are for her health. It's only when she's able to look after herself that she can do what means most to her — helping other people. "I'm glad when I can help my



Maria is a patient at the B. Braun renal care center in the city of

POPAYÁN
COLOMBIA

mother, who's ill, and my youngest son, who suffers from epileptic fits," she says. But her large family also gives her lots of energy, and she's in good contact with all of her seven children. She also loves being able to offer support to people and friends at the renal care center who are not doing as well as she is. Several of them need wheelchairs or are blind, while others live completely on their own. She's happy to be a support for her friends, even if it only means pushing a wheelchair.

When other people lose heart, it's often Maria who encourages them not to give up: "Keep on, don't give up, let's go on with the treatment until God helps us." She has a very strong religious faith and is convinced that it means something to go on living despite a severe disease and that it's important to make the most of the opportunity.

Maria Limbania Chaguendo is picked up by the B. Braun transport service sev-

eral times a week to travel to the renal care center, which has now become a kind of second home for her. She's developed lots of personal relationships there over the last few years — both with the nursing staff and with the other patients. And she was particularly attracted to one of them: Dumer, her new partner, whom she met during dialysis two years ago. Another person to give her more than enough reasons to

keep enjoying life and to look after herself as best she can.

Four tips for ways to get more exercise every day:

TIPS

Stay fit!

Exercise has always been the best form of medicine. So it's great that even 20 minutes a day is enough to do the body lasting good.

Intensive training not the thing for you? No problem – even regular physical activity can also keep you fit in everyday life. According to the World Health Organization, 150 minutes of moderate exercise a week is already enough to protect your health. More than that is also allowed, of course. Just give it a try!

1 Dusting, cleaning the windows, working in the garden, or even just dancing on the spot when your favorite song comes on the radio – everything that gets your pulse going for at least a couple of minutes is good for you. A moderate effort is enough, you don't need to overdo it. And whatever activity it is, always pay attention to keeping pressure loads away from your shunt.

2 Take a look at the habits you've got used to and switch to a more active mode: instead of taking the elevator, you can use the stairs more often, or you can get off the bus one stop early and walk the rest of the way. Or you can start cycling to the store more often. Each individual action may seem unimportant, but in the end every step counts.

3 When you're meeting friends, don't always see them just at home or in a café – try going for a walk more often. Walking is not only good for the body but also for the mind; it fights fatigue, and the fresh impressions you get can lead to interesting discussions.

4 Maybe even a bit of sports after all? Training units of 20 minutes in gentle stamina sports such as swimming, cycling, walking, and jogging are easy to do and ideal for keeping you fit and preventing diseases. Your doctor can also give you advice about them. And by the way: if you regularly get together with friends to do this, it's much easier to keep at it. Off we go!

FAQs IS DRIVING A RISK FOR DIALYSIS PATIENTS?

This is not a question that can be answered with a clear yes or no. Renal failure does not automatically have negative effects on your ability to drive. As always, it depends on the individual's personal condition. You can keep an eye on your own personal condition: if you don't feel well after a dialysis session – for example, if you have low blood pressure – then of course you shouldn't drive. The same also applies if you have heart problems or poor eyesight due to the disease. The best idea is to ask your doctor for advice and an assessment.

WHAT DO I NEED TO WATCH OUT FOR BEFORE VACATION TRIPS?

So long as you pay attention to a few basic organizational rules, the whole world is open to you even with chronic kidney disease. Feel free to make exotic travel plans! Holiday dialysis is now available all over the world: B. Braun alone has more than 370 renal care centers in more than 30 countries. Talk to your doctor about your destination so that he or she can start making arrangements. Long-distance trips involve a certain amount of planning, of course – from getting a visa to health insurance and suitable accommodation, as well as vaccinations and arranging treatment appointments. Your medical team will be happy to help you prepare for the trip so that you can set off without any worries.

WHERE CAN I GET HELP IF I'M HAVING DIFFICULTY COPING?

For lots of patients, particularly the initial phases of renal failure involve readjustments and changes and can therefore lead to psychological and emotional problems. If this is how you are feeling as well, always remember: you're not alone. Lots of patients before you have already gotten through this difficult time. And you don't have to cope with it on your own. Speak to the nursing staff about your problems. All of the medical team in your renal care center are experienced and have training in listening, helping, and organizing additional support for you if needed through social workers, psychologists, nutrition consultants, or self-help groups.

YEARNING FOR THE WILDERNESS

Are you dreaming about safari adventures, breathtaking natural scenery, and seeing unique local fauna? Only an hour from South Africa's legendary Kruger National Park lies the ideal starting point, surrounded by citrus plantations: Nelspruit.

Nelspruit's official name since 2010 has been Mbombela, but both names are still used. The town, with a population of around 60,000, is located at an altitude of about 500 meters (1,640 feet), and it offers visitors a pleasant climate and fantastic views of the subtropical Lowveld bush countryside.

Nelspruit/Mbombela is about 300 kilometers (186 miles) northeast of Johannesburg and is the commercial and service center for the province of Mpumalanga.

In addition to a modern renal care center, the town has first-class shopping, restaurants, and a movie theater, a theater, and other leisure facilities. In spring and summer, bougainvillea and other flowering plants transform the town into a sea of color. Plenty of comfortable guest houses and lodges ranging from rustic to

luxurious — often with beautiful tropical gardens and set in the city's hills — make Nelspruit an oasis where you can relax after adventures and excursions to some of South Africa's most magnificent countryside. And the excursions available couldn't be more spectacular! First place goes of course to the Kruger National Park, the south entrance of which is only 50 kilometers (31 miles) away from the town. Take your binoculars with you and go stalking for big game: in Africa's largest nature reserve, you can encounter elephants, lions, rhinos, giraffes, and zebras in the wild. And if you want, you can rent

a house in the bush and spend the night there.

Still wanting more excitement? What about a trip to the nearby Blyde River Canyon, the world's third-longest canyon, with gigantic waterfalls, rapids, and world-famous lookout points such as the Three Sisters? Or would you like to plunge deep into subterranean Africa and explore the Sudwala stalactite caves, more than two million years old? Maybe you also want to visit the former goldmining town of Kaapsehoop — the region around the town features lots of rare bird species and is famous

for its wild horses. Whether it's a crocodile farm, a dinosaur park, the Jane Goodall chimpanzee reserve, or of course the greatest attraction in Nelspruit itself, the breathtakingly beautiful Lowveld National Botanical Garden, situated right on the shores of the Crocodile River and Nels River, with magical waterfalls — in this part of South Africa, travelers can find some of the most beautiful and impressive natural scenery that the world has to offer.

BEST TIME TO TRAVEL

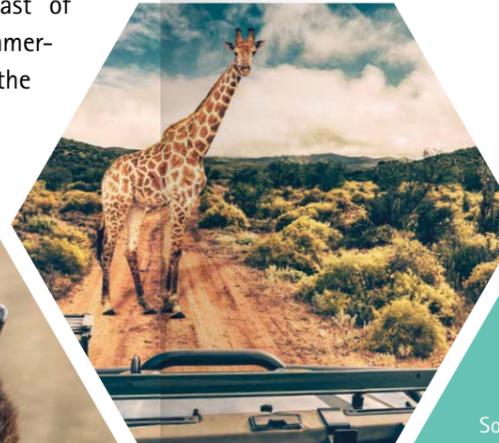
The best time to visit Nelspruit and the Kruger National Park is during the dry African winter — the months of June, July, and August, with comfortable temperatures during the day and moderately cold at night. During the rainy season between October and April, however, temperatures can rise to over 40 degrees Celsius (104 °F) and hot, humid weather can be expected.

INTERESTING FACTS

Transport: You can get to Nelspruit via Johannesburg by train or plane, and the modern international airport, Kruger Mpumalanga International (MQP), also has several flights per day from Cape Town.

FURTHER INFORMATION

More information about Nelspruit and South Africa is available at: www.southafrica-travel.net
Further information about Kruger National Park is available here: www.sanparks.org/parks/kruger



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ARE YOU **READY** FOR AN **ADVENTURE?**

VEGETABLE RICE

Boil the rice in plenty of water until done. Peel the carrot and cut it into small cubes; do the same with the onion and bell pepper. Cut the shallot into rings. Soften the vegetables in plenty of hot water and shock in an ice bath when done. Finely chop the chives and cilantro. Add the rice, veggies, and herbs to a bowl and mix thoroughly. Separate the egg whites and yolks and add the latter to the veggie mixture. Set the whites aside for future use. Season to taste with chili powder and pepper.

SPRING ROLLS

You can buy spring roll wrappers pre-made at the supermarket or Asian grocery. Unpack and place two unrolled wrappers on top of each other for filling. When you have stacked up all of the dough pieces next to each other, spoon equal amounts of the rice-vegetable filling onto each stack. Brush egg white on all of the edges of the dough, fold in the ends, and roll up each stack tightly to form the spring rolls.

Cover a baking sheet with parchment paper and set out the spring rolls on top of it. Brush each roll with a bit of liquid whipping cream. Bake in the oven at 200 degrees Celcius (390 °F) for 15-20 minutes until lightly golden brown.

Remove the spring rolls from the oven, cut diagonally, and place on the spinach, which has been defrosted and cooked without any liquid.

Use frozen spinach for this dish but defrost it before use. It is also best to press out any liquid in a sieve with a spoon and to heat it up in a bit of heavy whipping cream.



VEGETABLE
rice.
spring
rolls
 ON SPINACH

SERVES 4

- 100 g rice
- 1 medium-sized carrot
- 1 small red onion
- 1 bell pepper (any color)
- 1 shallot cut into rings
- 1 small bunch of chives
- ½ bunch of cilantro
- 2 eggs
- ½ chili
- Fresh ground pepper
- 2 TBSP of cream
- 1 package of frozen spinach
- 8 double-sized spring roll wrappers

Nutrition value (All nutritional information per serving. This corresponds to 1/4 of the total recipe.)

Energy	Carbohydrates	BE	Protein	Fat	Potassium	Phosphate	Sodium	Water
627 kcal	105 g	8.8	20 g	14 g	625 mg	187 mg	700 mg	304 ml

These nutritional values represent average figures, which may differ in certain cases. They should be used only as a guide and cannot replace a consultation with your doctor or nutritionist.

Getting through the dialysis day relaxed and fresh

HEALTHY LIFESTYLE

Treatment days are important, but they're not always easy.

However, if you plan your time well and you can find the right mixture of interesting things to do and ways to relax, it's not that difficult to get yourself feeling much better before, during, and after dialysis.

As a dialysis patient, you have to spend a lot of time on the dialysis machine. It's a big challenge both physically and mentally, because the long periods of physical inactivity mean that you lose energy, and they can also affect your mood.

But treatment days can also be feel-good days. To make the best of your valuable time, you should consciously give top priority to your own well-being on these days.

You can find useful information for your health & fitness at our website, www.bbraun-dialysis.com.



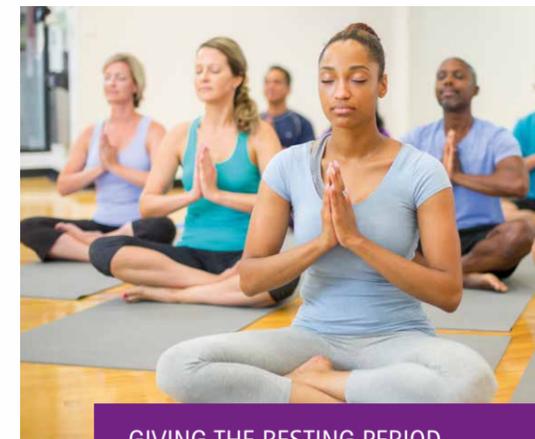
IT ALL DEPENDS ON GETTING A GOOD START

If you tend to feel too tired to do any sort of exercise after treatment, then the best thing is to use the morning before for a moderate exercise program. Jogging or a walk around the park, or a short bicycle tour through your district, will give you oxygen, fresh muscle power, and positive thoughts.

A few exercises, such as loosening-up exercises for the neck and shoulders and moderate weight training, are good for you. Speak to your doctor about what might be best for you.



Lots of patients say that movement routines such as yoga and qigong, which develop mental stability, physical flexibility, and strong muscles, have very positive effects and are helpful for dealing with difficult moments before, during, and after dialysis. Or just indulge yourself with something that is fun for you — for example, visiting an exhibition or going on a shopping tour. In any case, you should make use of the time beforehand for some sort of physical activity so that you can make the most of the resting period during treatment.



AFTER DIALYSIS: LOOK AFTER YOURSELF WELL

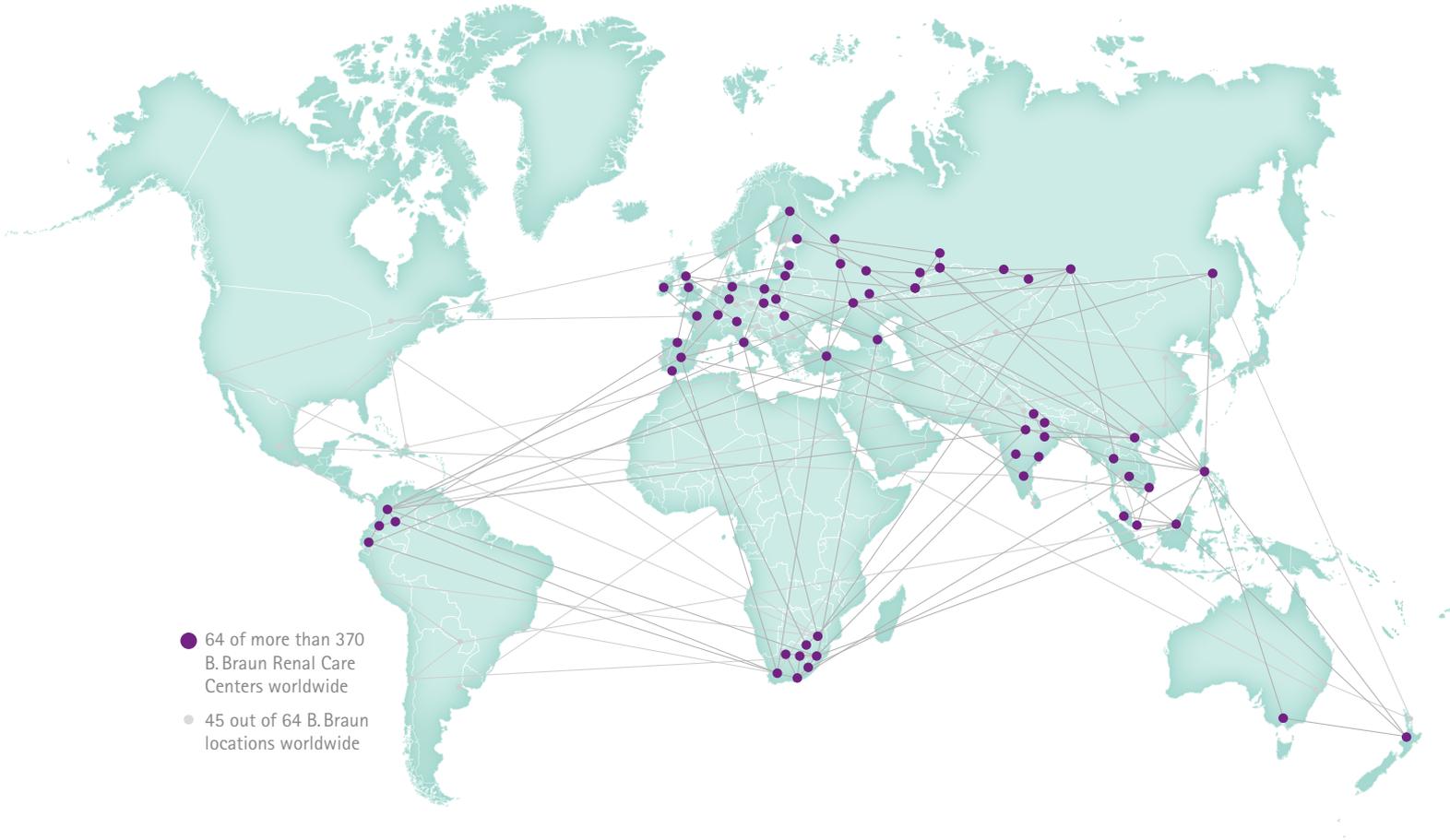
You yourself know best how you feel after treatment. So take care of your feelings carefully. If you feel like it, you can go for a walk in pleasant natural surroundings — that will help reduce stress, promote digestion, and help you sleep better. If you feel too exhausted for that, it may help to meet up with people you have things in common with. Have you already gotten in touch with your local self-help groups? Or you may prefer spoiling yourself at home — e.g., with comfortable lighting and relaxing music. But you should postpone taking a bath or a shower till the day after, until your cannulation site has healed properly. Instead, you can give your feet some exercise and care — this promotes circulation and is relaxing. You may also find a few active exercises taken from autogenic training or yoga helpful in order to shake off the day's stress and unwind actively. Just experiment with everything you like — and gradually you can become your own personal well-being expert.

GIVING THE RESTING PERIOD A STRUCTURE

Dialysis treatment usually takes four to five hours — time that you shouldn't just spend waiting. You can of course sleep or watch TV. But you may feel better if you divide the treatment time more consciously, or have a few small projects for things to do. Some centers offer painting courses or even moderate weight training during dialysis. Activities such as getting some research done or writing planning lists, e-mails, or letters can be included in your plans for these hours. You can learn a language online, for example, or use videos to find out more about a specific topic that interests you (such as qigong, for instance).

A NETWORK OF COMPETENCE

Exploring the world with B. Braun



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