TRAVELING WITH DIABETES

Uwe Diegel

medactiv
transforming lives

ABOUT THIS GUIDE

Diabetes should not prevent you from having fun, from making a trip to an exotic country or a simple mountain hike. If you have diabetes and want to travel, you just need to carefully plan your trip. There are of course always unexpected events (lost luggage, the sinking your boat next to a lost island), but if you are well prepared, you can usually overcome these difficulties quite easily.

There are many misconceptions about diabetes and insulin, and quite often the things that seem quite obvious to your doctor are a complete mystery to you.

This guide to traveling with diabetes was developed by Uwe Diegel with a team of specialists and international medical consultants. We try to provide you with information that is factual and current. If you have any comments/ suggestions/questions about diabetes, please login to our Facebook page (https://www.facebook.com/lifeinatimeline/ (don't forget to like us)) or visit us on www.lifeina.com.

ABOUT UWE DIEGEL

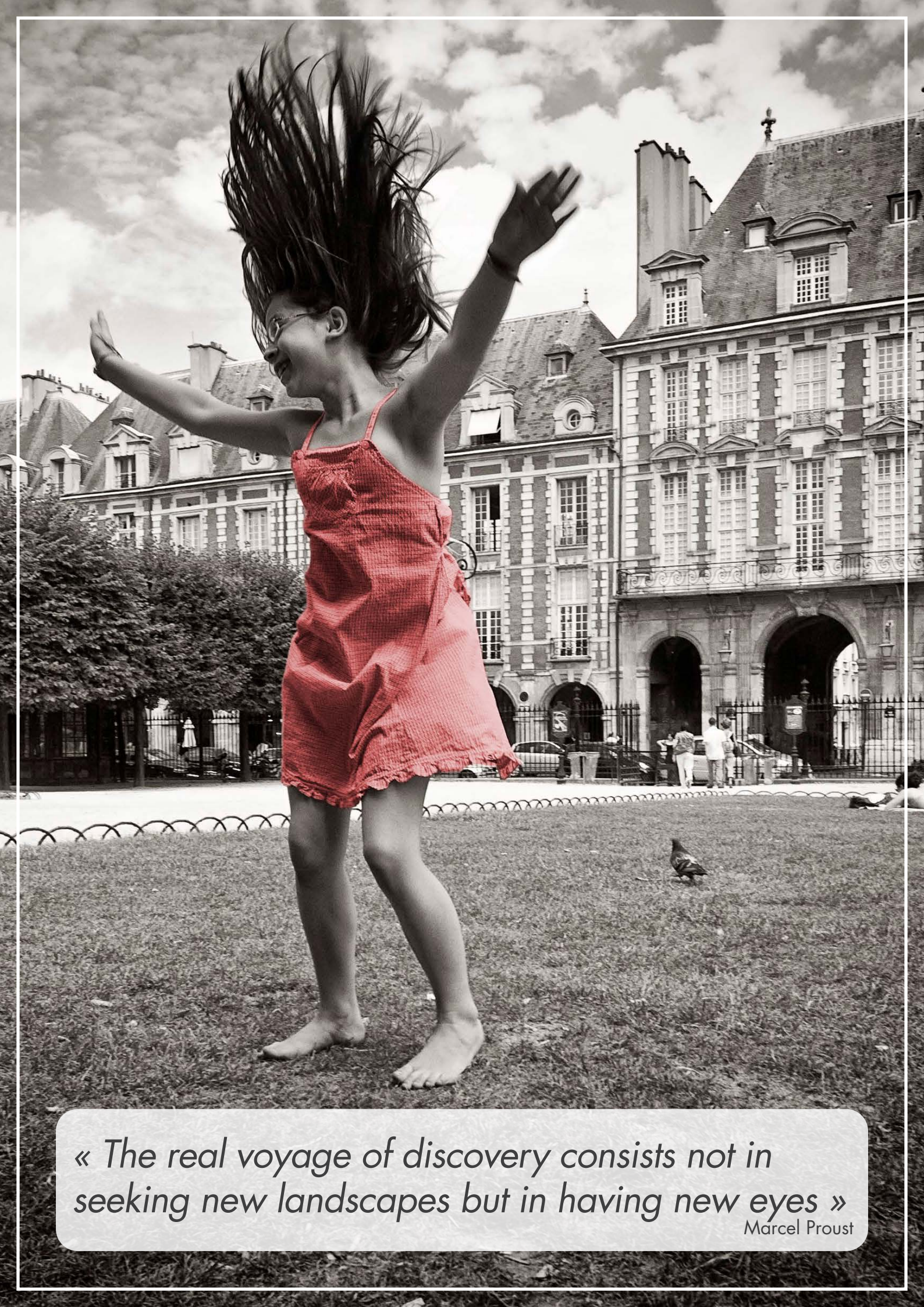
Uwe Diegel (born 1965 in New Zealand), is a specialist in various forms of medical diagnostics such as blood pressure, temperature, asthma and diabetes. He is the holder of several patents relating to temperature and blood pressure measurement. Until the age of 26 he was a concert pianist. Following an accident that partially restricted movement in in right arm, he started a new career in medical diagnostics.

Serial entrepreneur, he entered the world of medical diagnostics in 1992, quickly developing a particular interest in cardiovascular diagnostics. His intense scientific curiosity has led him not only to develop new technologies in this field, but also to interest himself to field of medical manufacturing, industrial design and problems faced by Chinese manufacturing concerns.

Uwe lives in Paris, France, where he runs HealthWorks Global and does fundamental research in blood pressure diagnostics. He is today considered to be a foremost expert in the field of blood pressure management and in the manufacturing of medical diagnostics devices.

In 2009, Uwe gets interested in connected health as a means of providing better patient management. He becomes involved in iHealth, a platform that takes all the signals of the body and translates them into a meaningful format using smartphones and tablets. Uwe serves as CEO of iHealthLabs Europe until 2016. He leaves iHealth in 2016 to launch Lifeina, a company dedicated to developing new solutions for the safe transport of medication.

Uwe Diegel has been at the forefront of international changes in healthcare technology for the last 30 years. His drive and passion for innovative technology have driven major changes in perception about healthcare. He has driven the manufacturing of medical devices to new horizons by forcing new practices in manufacturing and innovation. An internationally recognised expert in the management of cardiovascular disease and diabetes, he is continuously looking for better solutions to improve outcomes for patients. He has for the last few years spearheaded the dissemination and acceptance of connected health as a tool for providing better solutions for patients.



« The real voyage of discovery consists not in seeking new landscapes but in having new eyes »

Marcel Proust

BEFORE YOUR TRIP

TALK TO YOUR TRAVEL AGENT

Tell your travel agent that you have diabetes and explain the specific requirements that the journey might entail. This way, your trip can be tailor-made to better meet your needs. A missed connection in an airport can ruin even the best-prepared holidays.

TALK TO YOUR DOCTOR

Consult with your doctor before planning/ confirming your holidays. Discuss your itinerary with him and develop plans for meals and medication, especially when traveling through different time zones. Ask your doctor what to do in the eventuality of you becoming sick while on holiday.

TALK TO YOUR PHARMACY

Ask for a list of all your medications (including generic names and dosages) from your pharmacist (especially oral medications for diabetes and insulin). If you take insulin, be familiar with the different types of insulin and know if your insulin is fast acting, intermediate or slow. Carry this list with you at all times.

TRAVEL INSURANCE

Make sure you have travel insurance to cover your trip and keep copies of your insurance docs with you in case of emergencies. Some insurance plans do not cover pre-existing conditions, which may include diabetes. Make sure your diabetes is covered by your medical plan.

DIABETES IN A FOREIGN LANGUAGE

Learn how to say, "I have diabetes" and "orange juice or sugar, please" in the language or languages of the countries you visit. Try to find out what the important words for diabetes are (insulin, sugar, hypoglycaemia, etc.) in the country where you travel in case you have a medical emergency or if you need to let people know that you suffer from diabetes.

GLUCAGON

If you use insulin to manage your diabetes, you should also ask your doctor if glucagon is suitable for you. Glucagon is given by injection and is used to treat severe hypoglycaemia, a condition that can cause seizures or unconsciousness. If you are traveling in a remote area with no ambulance service, it is important that your traveling companion learn how to administer glucagon. Talk to your doctor if you are not familiar with its use.

MEDICATIONS

Make sure you have enough medicine to cover the entire period of your trip. It may also be a good idea to double the amount of medication you need for your trip and to put one set in your hand luggage and the other in the hand luggage of your travel companion. That way you'll have a backup if you happen to lose one of your bags during the trip. Keep your medications in properly labelled containers, as issued by your pharmacist, and keep your insulin at the right temperature (between 2 and 8°C).

BOXES FOR USED SYRINGES/ NEEDLES

In addition to your medication, you will need a secure box to dispose of your used needles. These boxes are usually available for free from your pharmacy. Talk to your pharmacist or your doctor about how to get one. If you do not have a secure box, an empty soda bottle works just great…

VACCINATIONS

Be sure to get the necessary vaccinations at least four weeks before your departure to allow time to deal with possible side effects.

PRESCRIPTIONS AND DIABETIC CARDS

Ask your doctor to give you a prescription in English, because English is the most widely understood language by doctors worldwide. Download a Diabetic Card and always keep

Please cut out this card, fill in the relevant information, fold it in two and insert it in your wallet so that it is with you at all times. Feel free to write more information inside the card if you need to.

It is one of those documents that is completely useless until it becomes essential and saves your life.

I am a diabetic

Emergency treatment

If I am able to swallow, give me sugar in some form - candy, syrup, cola or similar beverages that contain sugar, orange juice, etc. Please call my family directly at the below number:

I am a diabetic

I AM NOT INTOXICATED

If I am unconscious or my behavior is peculiar, please refer to emergency instructions on reverse side of this card.

NAME _____

ADDRESS _____

CITY _____ TEL _____

EMERGENCY CONTACT _____

EMERGENCY TEL NUMBER _____

CERTIFICAT MEDICAL *MEDICAL CERTIFICATE*

Docteur/*Doctor* _____

Adresse/*Address* _____

Tel _____

Je soussigné, Docteur _____

I, the undersigned, Doctor

Certifie que
(Prénom et Nom) _____

Certify that
(First name and Name) Passport No _____

souffre d'une pathologie chronique nécessitant la prise du traitement suivant administré en injections sous-cutanées :

is affected with a chronic disease and is treated with the following medication, managed by subcutaneous injections:

nom commercial/DCI _____

Ce traitement nécessite qu'il/elle puisse garder dans la cabine de l'avion le produit et les seringues nécessaires aux injections d'une part ; et d'autre part que ce produit puisse être maintenu à une température comprise entre +2° C et +8° C pendant la durée de son voyage.

This treatment requires that he/she be allowed to carry the drug and the needles used for the injections in the cabin of the plane. The drug must be maintained at a temperature between +2° C and +8° C during the period of travel.

Certificat médical établi à :
Medical certificate made in : _____

Date : _____

Signature :

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NB: En aucun cas son traitement ne peut être interrompu.
NB:Treatment must never be stopped.

A champion is afraid of losing.
Everyone else is afraid of winning.

Billie Jean KING

THE JOURNEY ITSELF...

this card in your wallet when you travel. It may save you a lot of trouble. The Diabetic Card is also usually available from your local diabetes association, or you print the one here.

Download a travel certificate and ask your doctor to complete it. This travel certificate says that you have diabetes and that you should not be separated from your medicine, and that this medicine should be stored at a temperature between 2 and 8°C. You can download a Travel Certificate or print the one here.

EUROPEAN HEALTH INSURANCE CARD (EHIC)

If you are European and traveling in Europe, this card will entitle you to free or low cost healthcare in most European countries. The EHIC card is free and is available on the French health insurance website (https://assure.ameli.fr/).

SEASICKNESS

If you suffer from seasickness, take some carbohydrates in liquid form (juice or soft drinks) with you.

ASSISTANCE

When booking, always inform your airline or your travel agent if you need assistance during the trip.

COPIES OF YOUR PRESCRIPTIONS

Make copies of your prescriptions and keep them in your hand luggage in case customs or airport security ask you questions about the medications you are carrying.

MEDICATION

Divide your medication and diabetes supplies in half and put one half in your carry-on bag and the other half in the baggage of your travel companion (if possible). This way, even if you lose one of your bags, you will have emergency supplies. Above all, make sure that you have some of your medication in your carry-on. Take extra supplies and medicines in case of loss or theft. Include any other supplies you might need, including treatment for hypoglycaemia, food, drinking water, walking shoes, sun cream and medication against nausea and diarrhoea. Keep your long-term insulin at the right temperature (between 2 and 8°C). Make sure you keep your daily-use insulin at a temperature under 25°C.

CUSTOMS

- Inform the security guards that you have diabetes and that you are carrying medical supplies. Your medication must have a prescription label with your name on it.
- All medications must be labelled with the manufacturer's name.
- Syringes are only allowed through security if you are carrying insulin.

If you take insulin, do not forget to take it with you at all times. Security scanners used during check-in will not damage your insulin or blood glucose meter. However, if your luggage is under X-rays for a longer period than normal, or if the luggage is X-rayed several times, your insulin may lose some of its effectiveness. So if possible, it is always better to ask them to pass your insulin through manually. Again, if you warn the security guards BEFORE they ask any questions, they will normally bend themselves

backwards to help you. You'll probably end up jumping the line and getting through before everyone else. However, if you are a jerk about it, you could end up getting that dreaded full cavity body search.

CUSTOMS AND INSULIN PUMPS

Notify a security officer in advance if you are using an insulin pump. The walk-through metal detectors and hand-held metal detectors can affect the operation of an insulin pump, so if you are using an insulin pump you should ask the security agent for a manual search in a private area. You must inform them that your insulin pump cannot be removed.

WHERE TO PUT YOUR INSULIN ON THE PLANE

Generally, the luggage zones on a plane are all pressurized and maintained at a constant temperature of about 5°C. This is a standard for the vast majority of airlines. So it's not a problem for you to put some insulin in the hold. However, if you are using an unusual flight (for example in the steppes of Russia with a Russian ex-military aircraft), please note that your luggage might be in an unpressurized environment and will be at a low temperature that is likely to freeze your insulin. Insulin is affected by extreme temperatures and should never be stored in an unpressurized aircraft. It is important to inspect your insulin before each injection. If you notice anything unusual with the appearance of your insulin, immediately replace it with fresh insulin. Insulin that has been frozen will look like it has crystals in it. These crystals are super uncomfortable to inject.

Generally, it is recommended never to leave your insulin and, if possible, to carry it as hand luggage, because if your insulin is in your main luggage in the hold and that your suitcase is lost, it may ruin your vacation. Wherever you go, always keep enough insulin for the duration of the trip and one day more.

TIPS FOR DIFFERENT TYPES OF TRAVEL

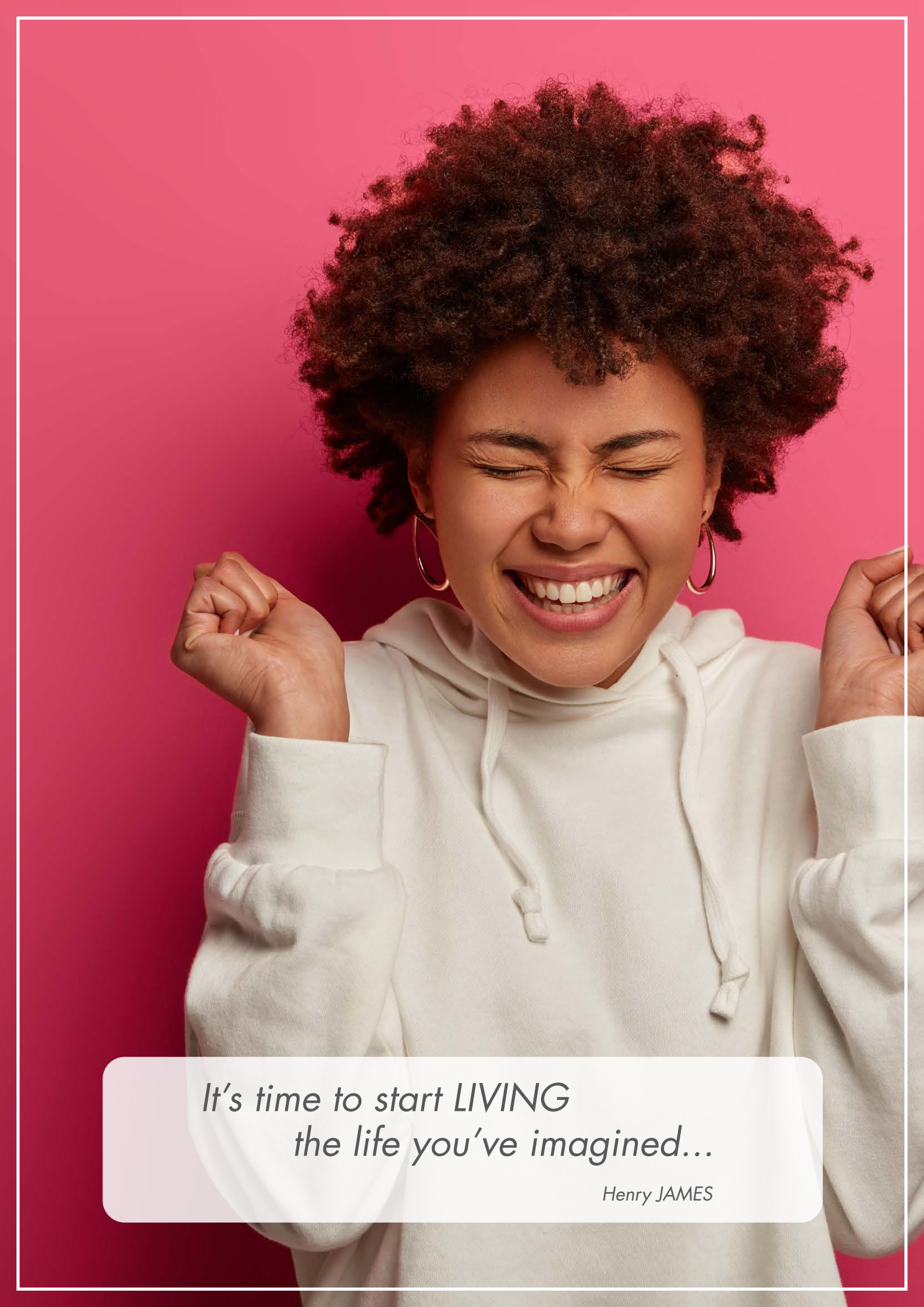
BY PLANE

Be sure to give yourself extra time before your flight because when you arrive at the security check with insulin and syringes, the security control of the airport may take a few minutes more.

Airlines usually offer special meals for diabetics (however you must notify them at least 48 hours in advance), but with a little planning, the regular meals in an airplane can normally fit into your usual diet. Always have appropriate snacks with you in case your flight or the meal is delayed, or if the meal provided does not have enough carbohydrates. Be aware of time zone changes and of the timing of your meals and prepare your medication accordingly. If you sleep during your flight, use an alarm clock or ask the flight attendant to wake you up at meal times or when it is time to take your medication.

Try to stay active during your trip: walk through the terminal before boarding, do simple stretching exercises in your seat or make circles with your ankles. If possible, elevate your legs every now and then.

If you are using a prescription drug it is important to have it with you and to know how to use it and any side effects that you may have. This will help you in explaining to the flight attendant how to help you if you need it.


It's time to start LIVING
the life you've imagined...
Henry JAMES

TAKE IT EASY !

BY CAR

Whether you are a driver or a passenger, it is very important to check your blood sugar regularly. Check it before you leave home, and again every four hours during your trip. Stop every few hours to stretch your legs and do some physical activity to improve circulation in your legs. At the first sign of hypoglycaemia take a dose of simple sugars such as glucose tablets, 175 ml of fruit juice or even a soft drink. Follow this with longer acting carbohydrates and protein such as a sandwich. Do not start driving again until the symptoms have disappeared, and your blood glucose values are greater than 6 mmol/l. If you take insulin, avoid driving between your injection and your next meal. Limit your driving to a maximum of 12 hours per day, or six hours between meals. Keep your medication, meals and snacks as regular as possible. If you are stuck in a traffic jam, car breakdown, or take wrong directions, it will not always be possible to find a restaurant, so always bring along enough stuff to treat low blood sugar (glucose tablets, fruit juice or soft drinks).

BOAT

Cruise liners are known for their extravagant buffets. Don't go overboard (ha ha ha, excuse the pun) … With such a wide variety of appetizers and dishes available, it is easy to overindulge. If possible, try to get a sample menu of the cruise and you'll then have an idea of the types of food served and will be able to plan your meals accordingly.

Stay active to compensate for any extra food you eat. Cruise ships offer a wide range of activities; try an aerobics course, swimming, or just have a romantic stroll on the deck at sunset.

It's always a good idea to make the cruise staff aware of your diabetes in case of problems.

HIKING

Hikes in the great outdoors are often the most fun but remember the cardinal rule: do not go camping or hiking alone. Tell someone where you are going and when you expect to return so that you can be found in the case of an emergency. Take a first aid kit and if you use insulin, take some glucagon (glucagon is administered when a person has severe hypoglycaemia). Teach your traveling companion when and how to use glucagon. For more information on glucagon, talk to your doctor.

The key to enjoying a camping trip is to avoid things that will significantly change your glucose levels, such as significantly more intense physical activity than usual. Watch out for cuts, bruises, sunburns, blisters and insect bites. Make sure your food and water are not contaminated. Be sure to eat and drink enough to meet your needs - bring extra food, water, medication and sugar. If you are going to be very active, you may need to take less insulin, but talk to your doctor before doing so.

DURING THE TRIP

CHECKING YOUR BLOOD SUGAR DURING THE TRIP

Checking your blood sugar while traveling is as important (if not more) than when you are at home. Bring the instruction manual for your meter, as well as extra batteries and test strips. To facilitate the monitoring of injections and meals during time zones changes, keep your watch to the departure time zone until the morning after your arrival.

Check your blood sugar as soon as possible after landing. With the time differences, it can be hard to tell if you have a very low or very high glucose levels.

After a long flight, try to relax for a few days to get your system back in shape. Check your blood sugar regularly. If you take insulin, plan your activities so that you can integrate your insulin and meals in your workflow.

INSULIN DURING THE TRIP

Insulins sometimes have different brands and dosages in some countries. If you need to buy insulin during your trip, make sure that the brands and insulin dosages are the same as those you normally use. Try using your own drugs and syringes in the third world countries and avoid using local needles if they are not sterile.

In general, you should use the brand and formulation of insulin that was prescribed by your doctor. However, if you need more insulin when you're on the road and your usual brand is unavailable, you can replace your insulin by an equivalent formulation of another brand (ex. NovoLog for Humalog, Humulin R for Novolin R). However, any change in the formulation (ex. fast-acting for slow-release) requires medical supervision.

TIME ZONE CHANGES FOR INSULIN USERS

Long trips often cross several time zones, so a 24-hour day may be extended or shortened depending on your direction of travel. You should adjust your insulin schedule accordingly. Your glycaemic control may be disturbed by a change in schedule, modified activity, or a disturbance in your sleep patterns.

• When traveling east, your travel days will be shorter. If you lose more than two hours, you will

need to take less intermediate or slow insulin.
• When traveling west, your travel days will be longer. If you gain more than two hours, you will need to take extra units of insulin and more food.
• You can change the time of your meals and injections for up to two hours in a day without adjusting your insulin dose or your meal plan.
• Follow your usual meals whenever possible.
• If you cross more than two time zones, you should prepare a schedule of meals and insulin together with your doctor.

TIME ZONE CHANGES FOR USERS OF ORAL MEDICATIONS

If the time difference is less than three hours, you can move the time of your medications by an hour and a half. If the time difference is more than three hours, you should ask your doctor for advice.

EMERGENCY FOOD

Always carry some snacks with you in case of a drop in blood sugar or in case you are unable to eat your planned meal on time. Cheese, biscuits, fresh or dried fruit, energy bars and sandwiches are all healthy choices that are easy to carry in a handbag. Also carry some fast-acting sugar with you, such as glucose tablets or juice.

Avoid tap water in developing countries. This includes ice cubes made from tap water.

ALCOHOL, DIABETES AND TRAVEL

Consumption of alcohol may increase your risk of hypoglycaemia. However, travel is often equivalent to a holiday where alcohol consumption might be higher than usual. To reduce this risk, take the following steps:

BEFORE DRINKING ALCOHOL...

• Eat regular meals, take your medication and check your blood sugar frequently (keep your meter with you).
• Keep a treatment for hypoglycaemia with you (glucose tablets or fruit juice).
• Wherever you are, make sure someone knows how to recognize signs and symptoms of hypoglycaemia and how to treat it so that they can help you.
• Be aware that glucagon, a treatment for blood glucose, does not work when alcohol is in the body. For this reason, make sure someone knows how to call an ambulance if you lose consciousness.
• Wear diabetes identification such as a Diabetic Card or a Medicaid bracelet.

WHILE DRINKING ALCOHOL...

• Eat foods that are rich in carbohydrates.
• Eat even more foods that are rich in carbohydrates if you dance, play sports or do other unusual physical activities.
• Always mix your own drinks. Use less alcohol and stretch your drinks with sugar-free mixers.
• Drink slowly. Between each glass, have a drink without alcohol.

AFTER DRINKING...

• Tell a responsible person that you've been drinking. They should watch for symptoms of

Diabetics are naturally sweet !!!
You don't need that...

BE REASONABLE !

hypoglycaemia.
• Check your blood sugar before going to bed.
• Take a carbohydrate snack if your blood sugar is lower than usual.
• Set an alarm or ask a responsible person to wake you up at night and early in the morning - hypoglycaemia can occur at any time for 24 hours after alcohol consumption.
• Get up on time the next day for any food, medication or insulin that you normally take. Skipping medication or insulin may cause hyperglycaemia, ketones and DKA.

DIABETES AND FOOT CARE DURING TRAVEL

Diabetics need to pay attention to their feet.

• Take at least two pairs of shoes in order to change shoes as often as possible. Changing shoes helps prevent blisters and painful pressure points.
• Take comfortable shoes and socks and a first aid kit to treat minor injuries to the feet.
• Do not walk barefoot. If you are in the sea or walking on the beach, wear shoes made especially for the ocean. Protect your feet at all times when you're swimming in the ocean, walking on the beach or in a park.
• Do not wear open-toed shoes, including sandals, flip flops, or others (you increase your risk of injury and infection when your toes are exposed).
• Follow your normal daily care for your feet.

IF YOU BECOME ILL WHILE ON

HOLIDAY

When you are sick, your blood sugar levels can fluctuate and be unpredictable. During periods of illness, it is VERY IMPORTANT to:

- Test your blood glucose every two to four hours.
- Continue taking your diabetes medication.
- Drink plenty of water or fluids without sugar. Avoid coffee, tea and sodas as they contain caffeine that will make you lose more fluids.
- Replace solid foods with liquids that contain sugar if you cannot eat your usual meals.
- Take at least 15 grams of carbohydrate every hour.
- Call your doctor or go to an emergency room if you vomit and/or have diarrhoea twice or more in less than four hours.
- If you take insulin, continue taking it while you are sick. Check with your doctor if you think that you need to adjust your insulin doses during your illness.
- Relax.
- If you have travel insurance, take your documents with you to hospital.

THE STORAGE OF INSULIN

Insulin must be stored properly, because it will quickly become less effective if it is exposed to extreme temperatures. At an ambient temperature of 25°C, insulin will retain its effectiveness for about three weeks. At a temperature of 28°C, insulin will lose about 14% of its efficiency over a period of one month, and at 32°C it will lose about 18% of its efficiency over the same period. If insulin is exposed to temperatures below 0°C or is frozen, it almost immediately develops crystals that make the injection dangerous and uncomfortable. The ideal storage temperature for insulin is between 2 and 8°C. At this temperature insulin can be maintained almost indefinitely.

TRANSPORT YOUR MEDICATIONS

MedActiv and Lifeina have developed a range of solutions to keep your insulin at the right temperature at all times. These solutions are divided in two major technologies, which are cooler bags and mini fridges.

EASYBAG

The EasyBag keeps medicines cool for 4 days without electricity. The EasyBag kits use gel crystals that cool down medication when in contact with water. To activate the EasyBag simply immerse it in water for 40 seconds. The crystals in the panels of the EasyBag turn into a gel that stays cool for three to five days (depending on the ambient temperature) based on an evaporation process that will keep your medication at a temperature between 16 and 25°C (up to an ambient temperature of 38 ° C). Generally, insulin can be kept for about 3 weeks at a temperature between 16 and 25°C.

Of singular elegance, the LifeinaBag transport bags are discrete and offer a protection of 24 hours between 2 and 8°C.

ICOOL

The iCool bags use a new generation of chemical ice packs that do not sweat and have a longer thawing point than traditional ice packs. The iCool bags can keep medication between 2 and 8°C for up to 36 hours, depending on the model chosen. They also include separate compartments for transporting your accessories. Available under both the MedActiv (iCool) and the Lifeina (LifeinaBag) brands, these bags are the perfect companion for longer trips.

LIFEINABOX

LifeinaBox is the world's smallest intelligent fridge for the safe transport of fragile medications. Connected to an application that monitors the temperature of your medication, and with a built-in 6-hour battery, LifeinaBox is truly the best possible example of Human Centered Design.

LifeinaBox is the smallest smart fridge in the world and is an ideal solution for the secure transport of insulin.

USEFUL HINTS

For environmental reasons, more and more hotels are using coded cards to open the doors of their rooms and these cards are also often used as a switch to turn on and off the electricity in the room. This means that when you leave your hotel room, you take your card with you and turn off all the electricity in your room (including the little bar fridge where you keep your medications cool). To work around this problem, just use any old plastic card (a gym membership card, business card, etc.) to switch on the power in your room. Leave it permanently in the room so that the electricity stays on.

If you need to freeze the ice packs of your travel bag before leaving the hotel, the refrigerators in the hotel rooms are generally not of a very good quality and will not completely freeze your ice packs. So instead of using the bar fridge in your room, go down to the hotel bar and ask the helpful staff to freeze them for you. After all, they always need ice in bars to make those delicious gin tonics and therefore have high quality freezers.

USEFUL SITES

European Health Insurance Card
Google translate
MedActiv (transport solutions for medication)
Lifeina (the world's smallest fridge for transporting medication)

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ABOUT LIFEINA

Lifeina is an innovative startup that aims to be a global leader in the development of transport and storage solutions for sensitive medication. Our products are designed to give users the freedom to travel knowing that their medications are kept at exactly the right temperature.

The Lifeina solutions are specially designed to bring added value to the medications they are made for. Strategically located in Paris, we have the reputation of always anticipating the needs of our customers with an approach that is based on the total satisfaction of the end-user of the medication.

Our team of experts includes physicians, patients and engineers who are dedicated to finding better solutions for the transport and storage of sensitive medication.

EXCEEDING YOUR EXPECTATIONS FOR THE TRANSPORT AND STORAGE OF MEDICATIONS

For Uwe DIEGEL, creator of Lifeina, the company represents a personal investment. *"In 2003, my brother almost died following an incident where his medication was accidentally frozen in a hotel. So I started this company because of reasons that are more of a personal nature than just business. Lifeina is for me the ultimate expression of innovation at the service of healthcare. If the Lifeina products are so popular, it is because they are designed by patients for patients and because we speak directly with users of the medications to really understand their needs. "*

THE LIFEINA MISSION

Lifeina challenges benchmarks in the thermo-sensitive medication sector. We manufacture and market innovative solutions for the storage and distribution of thermo-sensitive medications.

THE LIFEINA VISION

A future where users of medication are not hampered by intrinsic limitations dictated by their health condition. A future where users are allowed the freedom to take responsibility for their health by using the correct tools for health management.

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