

Diabetes & Driving

«Stay mobile!»


englisch – anglais – inglese



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 **diabetes**schweiz
diabètesuisse
diabetesvizzera

Why be bothered anyway?

Studies show that, as a rule, diabetics do not cause more accidents than other road users. But there are two factors that pertain specifically to diabetes that may cause the authorities to refrain when issuing a licence or even revoke a licence.

On the one hand, the driver **must not have any complications that may delay their reactions whilst driving** – such as damage to the eyes, nerves or cardiovascular system. This can be the case especially after years of high blood sugar levels. So, for example, drivers must not suffer from permanent hyperglycaemia (excess of glucose in the bloodstream).

On the other hand, the main cause of road accidents among people with diabetes is hypoglycemia (deficiency of glucose in the bloodstream, **hypo** for short).

Why is a «hypo» so dangerous when you are driving?

Hypoglycaemia reduces the ability to concentrate and react when driving. Loss of consciousness at the wheel is even possible. Even a blood sugar level of less than 4 mmol/l can seriously impair driving abilities.

Furthermore, hypos are worse than usual behind the wheel, because you are focused on driving.

What causes a «hypo»?

Hypos can occur in people who are on insulin therapy or taking certain blood-sugar-lowering medicines (sulphonylureas, glinides).

This happens especially when it has been a long time or too long since the last carbohydrate-based meal. Physical exertion also causes the blood sugar level to fall.



With all other forms of therapy, such as sole use of metformin tablets, SGLT2 inhibitor or DPP-4 inhibitor, acarbose or glitazones, episodes of hypoglycemia are extremely rare.

The purpose of this brochure

In this brochure you will learn what measures are necessary to enable you (depending on your medication) to drive safely and to get your driving licence.

The different levels of risk

Depending on the respective form of therapy and the inherent risk of hypoglycemia, every driver suffering from diabetes is assigned a certain risk classification.

This classification is relevant, because the cantonal Road Traffic Offices place different demands on the drivers based on this assignment of risk, and these demands must be fulfilled for the licence to be granted.

Please note: These guidelines only apply to private drivers (CAT. A, A1, B, B1, F, G, M), not for the commercial transport of goods and passengers.

Group 1: No risk

Diabetics who are not treated with insulin, sulfonylureas, or glinides, do not have to observe any special measures when driving.

Group 2: Low risk

Diabetics who are treated just once a day with an analogue basal insulin (such as Lantus®, Levemir®, Tresiba®, Toujeo®) or just with gliclazide (such as Diamicon®) or glinides (such as NovoNorm® or Starlix®), have a low risk of hypoglycaemia. They must keep a hypo-

glycemia prevention pack as described on the back of this brochure and a blood glucose meter in the car, and be able to use it properly when needed.

Group 3: Increased risk

With all other forms of therapy than those mentioned above, there is an increased risk of hypoglycaemia. To obtain your licence, you must be able to demonstrate that you have had stable blood glucose levels over the past two years. You must not, in particular, suffer from frequent, severe hypoglycemia as well as any impaired awareness of hypoglycemia.

In addition, you must be able to reliably avoid hypoglycemia at any time when driving a car. In order to do this, you must adhere to the following rules of conduct:

Measure first, then drive!

Although a blood sugar level of 4–6 mmol/l is generally considered ideal, additional caution needs to be exercised when driving, so always measure your blood sugar level before you set out on any journey. Write your blood sugar level in your diabetes diary or use a blood glucose meter with a memory. This will cover you if you have an accident.

You should never drive with a blood sugar level lower than 5 mmol/l.

If your blood sugar level is lower than 5 mmol/l (90 mg/dl), eat 15–20 g of carbohydrate and check your blood sugar level again after 20 min.

If your blood sugar level is 5–7 mmol/l (90–125 mg/dl), eat about 10 g of carbohydrate.

Eat regularly!

During long journeys, stop every 1–1½ hours and check your blood sugar level.

If it is 5–6 mmol/l (90–110 mg/dl), eat 10 g of carbohydrate.

Stop immediately at the first sign of a possible hypo.

You should even stop on the hard shoulder or in a place where stopping is not permitted and eat 20 g of carbohydrate. Switch your hazard warning lights on and turn the engine off!

Caution: When you are driving, you cannot rely on your usual awareness of a hypo! Since driving requires more concentration, hypos at the wheel are more likely to go unnoticed.

Wait for at least 20–30 minutes after a hypo.

Because of the risk of a further hypo, do not continue driving until all of your symptoms have completely disappeared and your blood sugar level is over 6 mmol/l (90 mg/dl).

If possible, let your passenger drive instead.

Caution: no drinking and driving!

Since alcohol can cause hypoglycaemia and mask awareness of a hypo, it goes without saying that your blood alcohol level should be zero when you are behind the wheel.

Group 4: High risk

If in addition to the increased risk symptoms, there are further aggravating circumstances, such as a history of severe hypos or no awareness of hypoglycemia, then there is a high risk of hypoglycemia. In this case, a special assessment must be carried out by an Endocrinology/Diabetology specialist.

Depending on the findings, the Road Traffic Office may grant the licence under the proviso of the fulfilment of specific additional requirements.

Table of hypoglycemia risks and measures for private drivers

No risk	No treatment with insulin, sulfonylureas or glinides	<ul style="list-style-type: none"> Blood glucose levels do not need to be tested before or during the trip
Low risk	Treatment with just an analogue basal insulin 1 x daily or treatment with gliclazide or glinides (no combination of these therapies)	<ul style="list-style-type: none"> Blood glucose levels do not need to be tested before the trip Hypoglycemia prevention (carbohydrates) and blood glucose meter in the vehicle
Increased risk	Treatment with insulin (more than 1 x daily basal insulin, basal-bolus insulin or insulin pump, or analogue basal insulin, 1 x daily in combination with other substances for hypoglycemia) or treatment with sulfonylureas (except gliclazide)	<ul style="list-style-type: none"> Blood glucose levels have to be measured before and during long journeys Must not drive if blood glucose levels are below 5 mmol/l Hypoglycemia prevention (carbohydrates) and blood glucose meter in the vehicle
High risk	Same as risk group «Increased risk» plus additional aggravating circumstances such as: history of severe hypoglycemia in the last 2 years and/or no awareness of hypoglycemia	<ul style="list-style-type: none"> Special assessment by an Endocrinology/ Diabetology specialist Special requirements, e.g. how often the blood glucose levels have to be measured

What should you have handy in the car?

To deal with a hypo: fast-acting, correcting carbohydrates

(each containing about 20 g of carbohydrate)

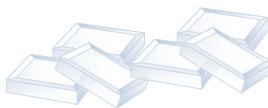


2 dl of sweet drink



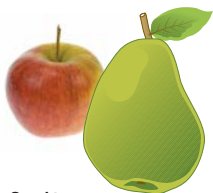
2 dl of fruit juice

about 6 pieces of
dextrose (the quantity
depends on the product)



As a snack: eat preventive, slow-acting carbohydrates
(one portion is roughly equivalent to 10 g of carbohydrate)

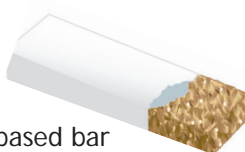
Combine two of the suggested foods for a snack
containing about 20 g of carbohydrate.



one fruit



3 Darvida bars



one grain-based bar

What should you keep in your car to prevent hypoglycemia?

It is mandatory even for drivers at low risk of a hypo to have a blood glucose meter and a so-called **hypoglycaemia prophylaxis** in the car. What does this mean?

Always keep fast-acting, *correcting* carbohydrates handy in the car and also tell your passengers where they are kept. Remember to have carbohydrate-containing food with you to snack to prevent a hypo. You should also plan for traffic jams, diversions, breakdowns, etc.

In case you experience a hypo, you should have **fast-acting, correcting carbohydrates**, such as 1,5 dl of liquid Dextro Energen, 2 dl of normal cola (not diet) or 2 dl of orange juice with you. A grain-based bar or a piece of fruit, for example, is recommended as a snack to prevent a hypo.

You will find a detailed list of correcting and preventive carbohydrates on the pull-out sheet.

It makes sense for all drivers, with or without diabetes, to keep a stash of energy snacks and drinks in the car.

What other precautions should you take?

If, for example, you drive after a brisk walk and have not reduced your insulin dose, you must eat about 20 g of carbohydrate before driving and about 10 g every hour during the journey if your blood sugar level is 5–6 mmol/l (90–110 mg/dl). However, if you have reduced your insulin dose, 10 g of carbohydrate is sufficient for a blood sugar level of 5–6 mmol/l (90–110 mg/dl).

How can you recognise when your blood sugar level may be low?

- You will experience double vision or have difficulty concentrating.
- You will be excessively hot or break out in a sweat.
- You will be overcome by immense tiredness.
- You will suddenly be hungry.
- You will have a headache or palpitations.
- You will become shaky or feel weak or dizzy.
- Your tongue will become heavy or your lips feel numb.
- You will be more irritable than usual.
- You will notice other symptoms that are familiar to you.

Where can you get further information?

From the Institute of Forensic Medicine / Traffic Medicine [Institut für Rechtsmedizin / Verkehrsmedizin]:

Herrn Dr. med. Rolf Seeger, Kurvenstrasse 31, 8006 Zürich

From your local diabetes association:

www.diabetesschweiz.ch/regionen

Aargauer Diabetes-Gesellschaft	Kantonsspital / Haus 16	5000 Aarau	062 824 72 01
Diabetesgesellschaft Region Basel	Mittlere Strasse 35	4056 Basel	061 261 03 87
Berner Diabetes Gesellschaft	Swiss Post Box 101565, Helvetiaplatz 11	3005 Bern	031 302 45 46
Diabetes Biel-Bienne	Bahnhofstrasse / Rue de la Gare 7	2502 Biel-Bienne	032 365 00 80
Diabetes-Gesellschaft GL-GR-FL	Steinbockstrasse 2	7001 Chur	081 253 50 40
Diabetes-Gesellschaft Oberwallis	Kantonsstrasse 4	3930 Visp	027 946 24 52
Ostschweizerische Diabetes-Gesellschaft	Neugasse 55	9000 St. Gallen	071 223 67 67
Diabetes-Gesellschaft des Kt. Schaffhausen	Vordergasse 32 / 34	8200 Schaffhausen	052 625 01 45
Solothurner Diabetes-Gesellschaft	Solothurnerstrasse 7	4601 Olten	062 296 80 82
Zentralschweizerische Diabetes-Gesellschaft	Falkengasse 3	6004 Luzern	041 370 31 32
Diabetes-Gesellschaft des Kantons Zug	Artherstrasse 27	6300 Zug	041 727 50 64
Zürcher Diabetes-Gesellschaft	Hegarstrasse 18	8032 Zürich	044 383 00 60
diabètefribourg - diabetesfreiburg	Route St-Nicolas-de-Flüe 2	1705 Fribourg	026 426 02 80
Association Genevoise des Diabétiques	36, av. Cardinal-Mermillod	1227 Carouge	022 329 17 77
Association jurassienne des diabétiques	Case postale 6	2854 Bassecourt	032 422 72 07
Association des diabétiques du Jura bernois	Case postale 4	2610 Saint-Imier	032 940 13 25
Association Neuchâteloise des diabétiques	Rue de la Paix 75	2301 La Chaux-de-Fonds	032 913 13 55
Association Valaisanne du Diabète	Rue des Condémines 16	1950 Sion	027 322 99 72
Association Vaudoise du Diabète	Avenue de Provence 12	1007 Lausanne	021 657 19 20
Associazione Ticinese per i Diabetici	Via Motto di Mornera 4	6500 Bellinzona	091 826 26 78

You can find more detailed information about each risk group and the corresponding requirements in the subject-specific guidelines that form the basis of this brochure. The guidelines were drawn up by a working group of the SGED, SDG and SGRM.

They also contain the relevant recommendations for the commercial transport of goods and passengers, which have much stricter requirements. Simply visit:

www.diabetesschweiz.ch/diabetes/recht-und-soziales/richtlinien-autofahren

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