Diabetes and travel
Fatema Jawad,1 Sanjay Kalra2

Abstract
This article encapsulates pragmatic advice that is necessary to ensure safe travel for people with diabetes. Written in simple words, it empowers the primary care physician to answer questions that are frequently asked by patients planning travel. It includes discussion on insulin dose adjustment, self monitoring, foot care and sick day management.

Keywords: Eastward travel, Foot care, Hypoglycaemia, Insulin, Insulin degludec, Self monitoring, Sick day, Westward travel.

Introduction
Travel is an integral part of human life. Whether for work or recreation, virtually everyone has to travel at some time or the other.1,2 People with diabetes frequently seek advice from their primary care provider regarding management of the therapy during travel.3-5 This brief communication covers this aspect of diabetes care.

General Advice
✦ Do not forget to carry extra supplies of glucose monitoring tools (glucometer, glucose monitoring sticks, lancets) Urine ketone testing strips and drugs (insulin, oral drugs) while traveling
✦ Spare batteries for your glucometer or insulin pump
✦ Tissue or cotton balls
✦ Keep a diabetes identity card in your wallet. This should list your condition, what to do if you are found unconscious, and a telephone number which can be contacted in case of emergency
✦ Keep a copy of your prescription with you
✦ Keep simple carbohydrates, e.g. sugar cubes, candy, honey, and biscuits, to take in case of hypoglycaemia

Insulin
✦ Take sufficient insulin to last the entire trip, or a week more.
✦ Store insulin properly. Insulin pens and vials in use can be kept at room temperature for up to 28 days.
✦ Keep all insulin in your cabin baggage while travelling by air. Luggage kept in the hold will cause the insulin to freeze during the flight.
✦ Keep insulin in a "cool, dark place". Do not keep it in direct sunlight.
✦ All dose adjustments should be guided by regular self-monitoring of blood glucose.
✦ Correction doses of short acting insulin can be taken as needed
✦ Insulin analogues offer the advantage of more flexibility and lesser hypoglycaemia: these should be preferred by persons whose lifestyle involves frequent travel.
✦ Insulin degludec is an ultra-long acting basal insulin which can be injected at intervals ranging from 8 to 40 hours, without the risk of hypoglycaemia6
✦ Pump users should have spare vials of short acting and basal insulin with syringes as a stand by, in case of pump failure
✦ Keep the home time on your watch for at least 12 hours after reaching your destination

Eastward Travel. Crossing more than five time zones
✦ Persons on once daily insulin should take their usual dose on the day of travel, but may benefit from a 1/3 reduction in dose on the day they reach their destination. This is because they will have “lost” a few hours of time, and may take lesser calories.
✦ Persons on twice daily insulin should take 2/3 of the usual morning dose on the day they arrive at their destination. The dinner dose should be kept the same. Usual dosage may be followed from day 2 onwards
✦ Persons on basal bolus therapy may follow their usual dosage schedule, taking the basal insulin every 12 or 24 hours (as per usual practice), and a bolus insulin with each

1Consultant Diabetologist, Department of Diabetology, SIUT, Karachi, Pakistan,
2Department of Endocrinology, Bharti Hospital & BRIDE, Karnal, India.
Correspondence: Fatema Jawad. Email: fatemajawad@gmail.com
meal. In case a meal is missed during travel, the bolus dose will also be missed.

**West Ward Travel. Crossing 5 or more time zones**

- Patients on once daily insulin (Basal) should take the same dose on the day of travel, and check glucose levels approximately 18 hours later. If plasma glucose is >240mg% or 13 mmol/l, a subcutaneous correction dose may be taken again.

- On the second night the dose should be reduced by one third. The usual dose is taken on the third night onwards.

- Patients on twice daily insulin should keep the same dose during westward travel.

- Patients on basal-bolus therapy should keep the same dose during westward travel.

- The bolus dose can be decided by frequent testing.

- Pump users should carry on with their usual testing and dosing. It is advisable to keep the blood glucose levels a little on the higher side to avoid hypoglycaemias.

On the airport, pump users should avoid walking through the metal detectors. Carry your doctors certificate for the purpose.

You can ask the airline for a diabetes friendly diet and snacks when you schedule your travel.

**Non-Insulin Glucose-Lowering Drugs**

- Usually no dose modification is required during travel for non-insulin glucose lowering drugs.

- Patient on conventional sulfonylureas (glibenclamide) must remember to follow a 3+3 meal pattern, (3 major meals and 3 in-between snacks) and avoid unaccustomed physical activity.

**Self- Glucose Monitoring**

- Monitor glucose regularly especially if there is significant change in physical activity, diet and sleep habits, or in external environment.

- Keep glucose monitoring devices and accessories in accessible locations, and avoid extremes of temperatures for storage.

**Foot Care**

- Take care of your feet.

- Wear comfortable, loose-fitting footwear.

- Use supportive cotton socks with loose elastic.

- Avoid prolonged immobilization: walk or stretch your feet at regular intervals.

- Do not walk barefoot

**Sick Day**

- Sick day occurs unannounced, and often tends to occur during or after travel.

- One should carry an emergency kit of frequently used drugs, including anti-emetics and oral rehydration solution (ORS).

**Conclusion**

Travel is an enjoyable and productive part of human life, as long as health is maintained.

Following simple tips, as detailed above, can help people with diabetes to travel long distances safely without risk of ill-health.

**References**


