



DIABETES

WHAT TO DO WHEN YOU TEST POSITIVE FOR COVID-19?

COVID-19 AND DIABETES

APDP's healthcare team gathered a set of information validated by the references mentioned at the end of this document. This document may be updated. Be sure to check APDP's website (www.apdp.pt) for the last available version. This information should be faced as an advice and is not intended to overlap the one given by your healthcare team regarding your specific health condition. Obviously this information does not overlap the one given by the health authorities

COVID-19 has been considered as an international public health emergency. People with diabetes may be more vulnerable to the severe effects of the new coronavirus (SARS-Cov-2).

DIABETES RELATED CARE

It is important that you follow the orientations regarding sick days, with more glycemetic and ketone monitorizations (whenever necessary).

Even when your glycemetic levels are within the desired values it is important:

To take your medication for diabetes as usual. The treatment with insulin should never be interrupted.

To monitor your sugar every 4 hours.

To drink extra liquids (with no sugar) - 120 to 180 ml. every 30 minutes to prevent de-hydration.

Try to eat normally.

Check your temperature every morning and every evening.

GUIDELINES FOR PEOPLE WITH TYPE 1 DIABETES

During the sick days:

The treatment with insulin should never be interrupted.

- Fast acting insulin should only be taken every 3 hours or more. Basal insulin should be adjusted as agreed with your health care team for sick days.
- The sugar levels in your blood (glycemia) should be monitored every 4 hours.
- Increase the intake of liquids (with no sugar) - 120 a 180 ml every 30 minutes to prevent de-hydration. It may also be necessary to drink sugary drinks. However, the amount of sugary drinks should be carefully controlled to prevent blood glucose levels from rising too much.
- Try to maintain your usual nutrition plan.

Optimal blood glucose levels should remain within their objectives. If the person doesn't know what his/her goals are, they ideally should be between 110-180 mg/dl (6-10 mmol/l).

If blood sugar levels (glycemia) are above 250 mg/dl (13,9 mmol/l) monitor blood ketone (check the following page).

**NOTE: If you are vomiting or with persistent nausea you
should go to the HOSPITAL**

(contact previously the Health line).

Ketonemia (mmol/l)

<0,6	Negative
0,6-0,9	Positive
1,0-1,4	Positive
1,5-2,9	Positive
>3,0	Positive / Hospital

Ketonuria

0	Negative
Traces/+	Positive
++/+++	Positive
+++	Positive

If your ketonemia/ketonuria is positive and glycemia is below 140 mg/dl (7,8 mmol/l):

- You should eat immediately, or treat your hypoglycaemia if so and avoid long fasting.

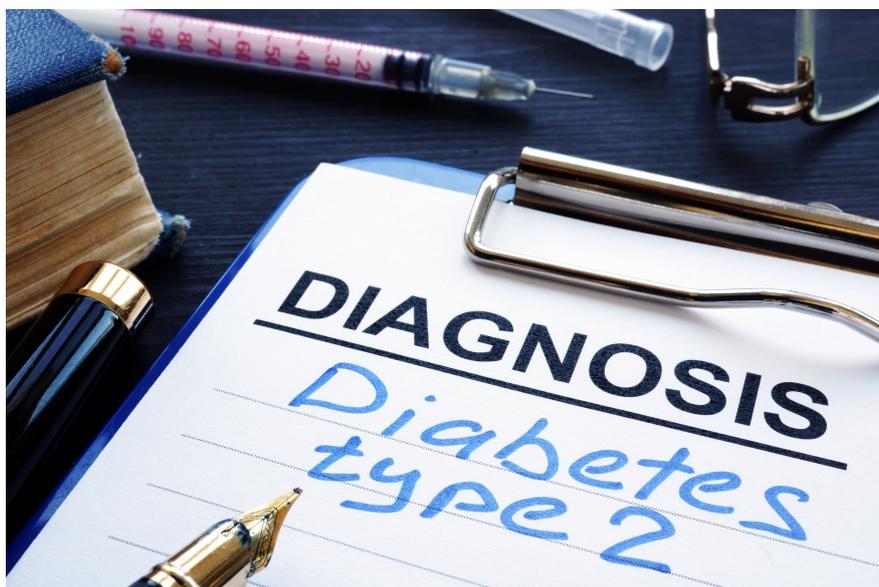
If your ketonemia/ketonuria is positive and glycemia is above 250 mg/dl (13,9 mmol/l):

- Take rapid acting insulin every 2 hours or every 3 hours, while ketonemia/ketonuria is still positive. The insulin dose will depend on the glycemia, age, individual characteristics and your healthcare team's recommendations.
- Maintain and reinforce the nutrition subdivision.
- Increase the intake of liquids: drink 2 to 3 litres of water within 24 hours.

It is very important to prevent de-hydration!

- Make sure to eat low fat food.
- You can make no fat meat broths, soups, flour with sugar broths, fruit juices, tea with sugar.
- Treat the intercurrent disease.
- Don't make any physical activity.

GUIDELINES FOR PEOPLE WITH TYPE 2 DIABETES



1. Treatment with oral hypoglycemic agents (OHA)

When you are sick, your blood sugar levels usually rise.

It is important to monitor your glycemia every now and then and the existence of the following symptoms:

- Thirst
- Dry mouth
- You are urinating more.

The blood sugar levels should indicate the person with diabetes whether he/she needs to contact his/her assistant doctor.

In the presence of fever, it may be necessary to monitor the glycemia twice a day.

If the blood sugar levels are above 250 mg/dl (13,9 mmol/l) and no fever or the above referred symptoms:

- Should drink 1.5l of water within one hour.
- If blood sugar levels are still above 250 mg/dl (13,9 mmol/l) and no identifiable reason you should contact your diabetes assistant doctor for therapeutic adjustment assessment.

2. Treatment with insulin

The goal is to maintain the blood sugar levels within the usual standard or, in case of no reference levels they should be between 110 and 180 mg/dl (6 and 10 mmol/l).

If your blood sugar levels are above 250 mg/dl (>13,9 mmol/l) and no infection symptoms or spoliation (intense thirst, often urinate, or dry mouth):

Care at home:

- Drink 1,5l of water within one hour.
- If levels are still above 250 mg/dl (13,9 mmol/l) and for no identifiable reason you should contact your diabetes assistant doctor for therapeutic adjustment assessment.

If you have a slow acting or basal insulin scheme:

- Glycemia between 250-350 mg/dl (13,9-19,4 mmol/l) rise 2U to the doctor prescription.
- Glycemia above 350 mg/dl (> 19,4 mmol/l) rise 4U to the doctor prescription.

NOTE: In case of persistent levels you should contact your healthcare team.

If you have a fast or ultra-fast acting insulin scheme:

- 250-300 mg/dl (13,9-16,7 mmol/l) - 2U
- 300-350 mg/dl (16,7-19,4 mmol/l) - 4U
- Above 350 (>19,4 mmol/l) - 6U

Pay attention to the hour you took the last dose (there should be a time interval of 3-4 hours from the last dose) and resume the prescribed scheme as soon as possible.

NOTE: In case of persistent levels you should contact your healthcare team.

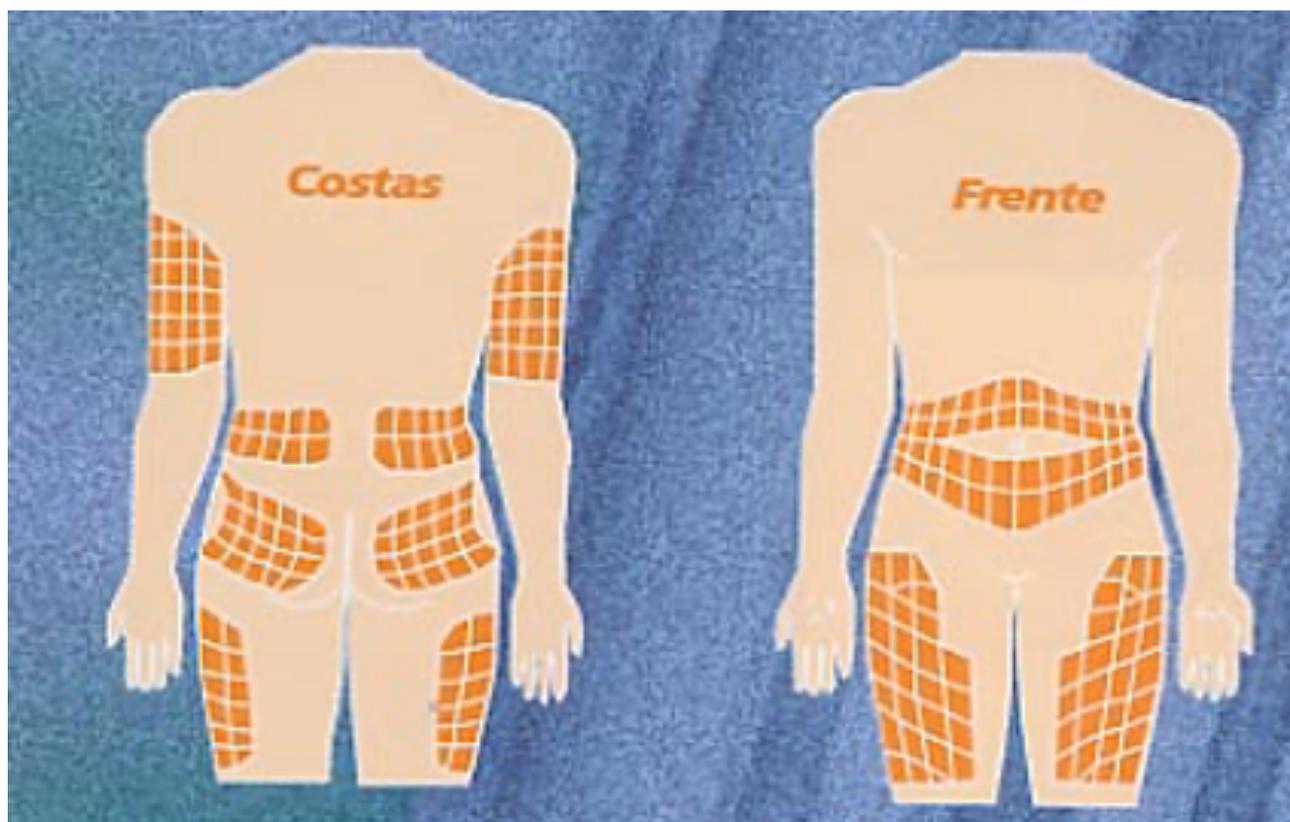
Don't forget:

To shake the insulin if it looks milky.

To keep in the fridge the insulin you are not using.

To change the needles between administrations.

To rotate the locations where you administrate the insulin (see the image below) .



How to isolate at home? – Isolation environment

- The person should be isolated and remain alone in well ventilated room ideally with bathroom. The other home locations should also be well ventilated letting the windows open whenever is possible.
- The other family members should not enter in the room, except for providing any assistance, namely food, medications, hygiene products, etc.
- Personal hygiene objects should not be shared (tooth brushes, towels, soaps, shampoo, etc.). In case of existence of 2 bathrooms, one of them should be for the exclusive use of the person with COVID-19. If there is only one bathroom, the infected person should use it for last (having bath) and disinfect all the surfaces that has touched, not forgetting switches, faucet handles and toilet (more detailed information ahead in this document).

- To prevent the negative psychological effects of isolation, if possible, the person should have access to phone, computer, tablet to be able to communicate with other persons, keeping the door always closed. This equipment should be disinfected afterwards with adequate products, namely alcohol 70%.

To take care of the isolated person

- The carer of the isolated person should ideally not be part of the risk groups – under 60 years old and with no chronic diseases.
- If possible, the isolated person should use a mask as well as the carer, whenever he/she walks in the room.
- When in touch with the infected person or entering the isolation area, it is necessary to proceed with the hand hygiene and every object he/she touched (before and after eating, after using the bathroom, etc.).
- The hygiene includes washing and possible disinfection. If the hands are with any kind of waste, they should be removed with a correct wash. It is not possible to consider that the disinfection process is properly completed if the residues are not first removed with washing.

Cleaning and disinfection

- The new coronavirus (SARS-CoV-2) may probably survive for hours in dry surfaces and up to 6 days in moist surfaces.
- Wet cleaning is always preferable to dry cleaning.
- Vacuum cleaners should not be used because they put in motion the droplets where the virus may be contained transforming them into aerosols, increasing the risk for contamination.

- In case other person needs to clean and disinfect the spaces used by the infected person, due to the impossibility of being carried out by herself/himself, that person should do the cleaning and disinfection with: a) if possible with a waterproof gown or plastic apron over his/her clothes, disposable gloves and mask resistant to liquids; b) clean the surfaces from up to down and from the cleanest to the dirtiest.
- Use disposable wipes with the detergent or disinfectant, or if not possible wash immediately the cleaning cloths in the washing machine.
- For the disinfection of surfaces: first wash with water and detergent; apply the bleach diluted in water in proportion of a bleach measure to 9 equal water measurements - with the original bleach of 5%, you get a total dilution of 0,5% of sodium Hypochlorite (about 7 and a half tablespoon for 1 liter); use a mask during the bleach dilution and application; leave it to act for 10 minutes; wash only with hot water and let dry in the air; open the windows to ventilate the room.
- In presence of blood, respiratory secretions or other organic liquids, they should be absorbed with paper prior to the above described disinfection process.
- For metal surfaces not compatible with bleach, such as remote controls or phones, alcohol 70% should be used.
- Clean the bathroom, starting by the faucets, washbasins and its drains, followed by the furniture, then the bathtub or shower, toilet and bidet.
- The same procedure should be repeated for the shower, not forgetting to clean the shower head, washing it and disinfect it.
- Clean the toilet applying the disinfectant product (dilluted bleach) in the interior or exterior of the toilet, leaving to act for 10 minutes for the desired effect, rub well inside with the piaçaba, discharge the water with the piaçaba still inside the toilet so that it is also clean; have the piaçaba drain; wash and disinfect the piaçaba holder; with other single-use clean cloth, wash the outside of the toilet, starting with the top (the least dirty), following

the top of the toilet and all the outer parts; then pass only with hot water and let dry. Finally, clean the floor. If existent, open the windows and leave it air.

Removing the bed linen and towels

- Don't shake the bed linen.
- Take it out without shaking, folding and rolling it from head to toes, making a "package", with the exterior part warping the centre. The goal is to keep the least contaminated part inside.
- Don't put the clothes in contact with your body and carry them directly into the washing machine.
- Clothes should be washed at highest temperature if can support - disinfection cycle by heat (at least 60°C for 30 minutes, or between 80°-90° for 10 minutes). In the absence of a washing machine, put the clothes in a waterproof bag, close it very well, take it to the laundry and deposit it directly in the washing machine.

Waste from the isolation zone

- It should be placed in a waste container (trash can) with non-manual opening with a plastic bag in the room where the person is isolated or in quarantine.
- The well-sealed bag with the waste should be placed inside of a second plastic bag, which should also be well sealed with 2 knots and ideally with a tie or adhesive.
- The sealing procedures of the plastic bags with the waste produced by the person in isolation or quarantine should be done with adequate protection (preferably with disposable gloves) to reduce the risk of contamination; After taking off the gloves wrapping them inside out, without touching the

outside part and putting them in the (new) plastic bag for the waste, the person should wash her/his hands with water and soap for at least 20 seconds, drying them well.

- These plastic bags with the produced waste should be disposed following the good practices with maximum caution for contamination prevention, never touching your clothing or body with the bag. These plastic bags with waste should be placed in the collective waste contained (household waste).
- This waste should not be separated for recycling or placed in the ecopoint.

Can COVID-19 be transmitted by fecal way?

- Currently, the virus SARS-CoV-2 was detected in feces of diagnosed patients with COVID-19. However, the positive result of the examination does not indicate the transmission by the feces. It is necessary that the public is correctly informed and doesn't panic. The transmission ways are droplets, human contact and aerosols.

Can a pet transmit the new coronavirus?

- At the moment, there are evidences that pets can be affected by the new coronavirus, but there is still no proof about the transmission from pets to humans.

References:

1. Insulina da teoria à prática – APDP 2018. Lidel ISBN: 978-989-752-395-3.
2. COVID-19 outbreak: guidance for people with diabetes – IDF.
3. IDFESick-day-management, em <https://www.idf.org>.
4. Documento De Consenso Da Sociedade Portuguesa de Diabetologia Integrado No Plano Nacional De Preparação E Deresposta Para A Doença Por Coronavirus (Covid-19) em www.spd.pt (consultado em 30 de março de 2020).
5. ADA em <https://www.diabetes.org/coronavirus-covid-19> (consultado em 30 de março de 2020).
6. Diabetes UK em https://www.diabetes.org.uk/about_us/news/coronavirus (consultado em 30 de março de 2020).
7. Diabetes voice Covid e Diabetes em- <https://diabetesvoice.org/en/news/covid-19-and-diabetes/> (consultado em 30 de março de 2020).
8. Diabetes Canadá - FAQ about COVID-19 and diabetes - <https://www.diabetes.ca/en-CA/resources/tools--resources/faq-about-covid-19-and-diabetes> (consultado em 30 de março de 2020).
9. Direção-Geral da Saúde. Orientação n.º 008/2020 de 10/03/2020 - Infeção por SARS-CoV-2 (COVID-19) Procedimentos de prevenção, controlo e vigilância em hotéis.
10. Direção-Geral da Saúde. Orientação n.º 010/2020 de 16/03/2020 - Infeção por SARS-CoV-2 (COVID-19) - Distanciamento Social e Isolamento.
11. Direção-Geral da Saúde. Orientação n.º 014/2020 de 21/03/2020 - Infeção por SARS-CoV-2 (COVID-19) Limpeza e desinfeção de superfícies em estabelecimentos de atendimento ao público ou similares.
12. Manual de Prevenção e Controle da Covid-19 Segundo o Doutor Whenhong Zhang. ISBN978-65-5502-009-0.
13. G. Kampf, D. Todt, S. Pfaender, E. Steinmann - Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. *Journal of Hospital Infection* 104 (2020) 246 e 251.
14. Best practices for environmental cleaning in healthcare facilities in resource-limited settings. US Centers for Disease Control and Prevention; 2019 (<https://www.cdc.gov/hai/pdfs/resourcelimited/environmental-cleaning-508.pdf>, consultado em 30 de março de 2020).
15. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected: interim guidance, 25 January 2020. Geneva: World Health Organization ([https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125), consultado em 30 de março de 2020).
16. WHO Team - Department of Communications. Water, sanitation, hygiene and waste management for COVID-19. Technical documentation. WHO/2019-nCoV/IPC_WASH/2020.2
17. WHO Team - Home care for patients with COVID-19 presenting with mild symptoms and management of their contacts. Interim Guidance. WHO/2019-nCoV/IPC/HomeCare/2020.3