



Research article

Quality evaluation of digital voice assistants for diabetes management

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Appendix 1. Questions on diabetes for quality evaluation of Digital Voice Assistants (DVAs).

Questions on Diabetes

-74 questions to be verbally presented to the DVAs

-An answer key is provided to each question

Questions	Answers
General Diabetes Information	
1. What is diabetes?	<i>[For Comprehensiveness: 7 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either answer]</i>
Question taken from: Google Trends	<ul style="list-style-type: none"> - Chronic/long-lasting ^[1,2] - Disease ^[2,3]/condition ^[1,4,5] - Occurs when there is not enough insulin ^[1-4]/body produce less insulin ^[5] - Occurs when there is no insulin is produced ^[3,4,5]
Disclaimer NOT required	<ul style="list-style-type: none"> - Can also occur when the body cannot use the insulin effectively ^[1-4] - Resulting in too much glucose/sugar in the blood ^[1-5]

	<ul style="list-style-type: none"> - Too much glucose/sugar in the blood can lead to health problems ^[1,3]/diabetes symptoms ^[4]/complications ^[5] <p>[1] Centers for Disease Control and Prevention. What is Diabetes? [Internet]. [updated 2020 Jun 11; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/basics/diabetes.html</p> <p>[2] World Health Organization. Diabetes. [Internet]. 2021 Apr 13 [cited 2021 Jul 20]. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes</p> <p>[3] National Institute of Diabetes and Digestive and Kidney Diseases. What is Diabetes? [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes</p> <p>[4] Diabetes UK. Diabetes: The Basics. [Internet]. [cited 2021 Jul 20]. Available from: https://www.diabetes.org.uk/diabetes-the-basics</p> <p>[5] Health Promotion Board. Living with Diabetes. [Internet]. 2017 Feb [cited 2021 Aug 13]. Available from: https://polyclinic.singhealth.com.sg/Documents/Living%20with%20Diabetes%20-%20English.pdf</p>
<p>2. What is <u>insulin</u>?</p> <p>Question taken from: Google Trends</p> <p><i>*Disclaimer NOT required*</i></p>	<p><i>[For Comprehensiveness: 7 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - A hormone ^[1-6] - Released by the pancreas ^[1-6] (beta cells ^[1,3,4] in the Islets of Langerhans of the pancreas ^[1]/pancreatic islets) - When we eat, blood glucose/sugar level rises and insulin is released into the blood ^[1,2,4,5] - Insulin moves glucose/sugar from the blood into body cells (fat, muscle and liver cells ^[5,6]) for use as energy ^[1-6] - Insulin moves blood glucose/sugar into the liver for storage (as glycogen) ^[1,3,5,6] - When blood glucose/sugar levels decrease, insulin release would also decrease ^[5] - Insulin also regulates the metabolism of fats ^[3,6], protein and carbohydrates in the body ^[6] <p>[1] American Diabetes Association. Insulin Basics. [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/insulin-other-injectables/insulin-basics</p> <p>[2] National Institute of Diabetes and Digestive and Kidney Diseases. What is Diabetes? [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes</p> <p>[3] Diabetes.co.uk. Insulin. [Internet]. 2019 Mar 12 [cited 2021 Jul 20]. Available from: https://www.diabetes.co.uk/body/insulin.html</p> <p>[4] Diabetes Australia. Insulin. [Internet]. 2022 Jul [cited 2023 Mar 23]. Available from: https://www.diabetesaustralia.com.au/wp-content/uploads/220145-Diabetes-Quick-Guides_insulin.pdf</p> <p>[5] Centers for Disease Control and Prevention. Insulin Resistance and Diabetes [Internet]. [updated 2019 Aug 12; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/basics/insulin-resistance.html</p> <p>[6] Endocrine Web. What is Insulin? [Internet]. c2021 [updated 2021 Jul 15; cited 2021 Aug 10]. Available from: https://www.endocrineweb.com/conditions/type-1-diabetes/what-insulin</p>
<p>3. What is <u>type 1 diabetes</u>?</p> <p>Question taken from:</p>	<p><i>[For Comprehensiveness: 8 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Also known as insulin-dependent diabetes ^[1,2]/juvenile diabetes ^[1,2]/childhood-onset diabetes ^[2]

<p>AnswerThePublic</p> <p>Original phrasing: “diabetes type 1”</p> <p><i>*Disclaimer NOT required*</i></p>	<ul style="list-style-type: none"> - Less common form of diabetes ^[1] - Occurs when the body cannot produce insulin ^[1,2-4] - Also occurs when the body makes very little insulin ^[1] - This is because the immune system attacks the cells in the pancreas that produce insulin ^[1,3,4] - Resulting in too much glucose/sugar in the blood ^[1,4] - Usually diagnosed in young people but it can develop at any age ^[1,3] - Daily insulin administration is required ^[2,3] <p>[1] Centers for Disease Control and Prevention. What is Type 1 Diabetes? [Internet]. [updated 2021 Mar 25; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/basics/what-is-type-1-diabetes.html</p> <p>[2] World Health Organization. Diabetes. [Internet]. 2021 Apr 13 [cited 2021 Jul 20]. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes</p> <p>[3] National Institute of Diabetes and Digestive and Kidney Diseases. What is Diabetes? [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes</p> <p>[4] Diabetes UK. Type 1 Diabetes. [Internet]. [cited 2021 Jul 20]. Available from: https://www.diabetes.org.uk/type-1-diabetes</p>
<p>4. What is <u>type 2</u> diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes type 2”</p> <p><i>*Disclaimer NOT required*</i></p>	<p><i>[For Comprehensiveness: 6 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - More common form of diabetes ^[1-4] - Occurs when body does not make enough insulin ^[1,2] - Also occurs when body is not able to use insulin well ^[1-4] <i>[Note: accept ‘insulin resistance’]</i> - Resulting in too much glucose/sugar in the blood ^[2,3] - Occurs most frequently in people who are older ^[3,5] - However, it can develop at any age ^[1,3,4] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. What is Diabetes? [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes</p> <p>[2] Diabetes UK. Type 2 Diabetes. [Internet]. [cited 2021 Jul 20]. Available from: https://www.diabetes.org.uk/type-2-diabetes</p> <p>[3] Centers for Disease Control and Prevention. Type 2 Diabetes. [Internet]. [updated 2019 May 30; cited 2021 Jul 20]. Available from: https://www.cdc.gov/diabetes/basics/type2.html</p> <p>[4] World Health Organization. Diabetes. [Internet]. 2021 Apr 13 [cited 2021 Jul 20]. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes</p> <p>[5] National Institute of Diabetes and Digestive and Kidney Diseases. Symptoms & Causes of Diabetes. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/symptoms-causes</p>
<p>5. What is <u>gestational</u> diabetes?</p> <p>Question taken from: Google Trends</p>	<p><i>[For Comprehensiveness: 8 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - A type of diabetes which develops in some women during pregnancy ^[1-5] - Caused by hormonal changes ^[2,3] (along with lifestyle and genetic factors ^[4]) - Occurs when the body use insulin less effectively ^[2,3] <i>[Note: accept ‘insulin resistance’]</i>

<p><i>*Disclaimer NOT required*</i></p>	<ul style="list-style-type: none"> - Can also occur when the body cannot make enough insulin ^[2,3] - Resulting in too much glucose/sugar in the blood ^[3,5] - Affects women who do not have diabetes before ^[2,3,6] - Usually diagnosed in the 2nd or 3rd trimester of pregnancy ^[6] /week 24–28 of pregnancy ^[3] - Usually goes away after giving birth ^[1,3] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. What is Diabetes? [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes</p> <p>[2] Centers for Disease Control and Prevention. Gestational Diabetes. [Internet]. [updated 2019 May 30; cited 2021 Jul 20]. Available from: https://www.cdc.gov/diabetes/basics/gestational.html</p> <p>[3] Diabetes UK. What is Gestational Diabetes? [Internet]. [cited 2021 Jul 20]. Available from: https://www.diabetes.org.uk/diabetes-the-basics/gestational-diabetes</p> <p>[4] National Institute of Diabetes and Digestive and Kidney Diseases. Symptoms & Causes of Diabetes. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/symptoms-causes</p> <p>[5] World Health Organization. Diabetes. [Internet]. 2021 Apr 13 [cited 2021 Jul 20]. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes</p> <p>[6] Diabetes Care. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from: https://diabetesjournals.org/care/article/44/Supplement_1/S15/30859/2-Classification-and-Diagnosis-of-Diabetes</p>
<p>6. What is prediabetes?</p> <p>Question taken from: Google Trends</p> <p><i>*Disclaimer NOT required*</i></p>	<p><i>[For Comprehensiveness: 4 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Known as Impaired Fasting Glucose ^[1,2]/ Impaired Glucose Tolerance ^[1,2]/ Borderline diabetes ^[1]/Impaired Glucose Regulation ^[1]/Non-diabetic hyperglycemia ^[1] - Blood glucose/sugar level that is higher than normal but not high enough to be diagnosed with type 2 diabetes ^[1,3,4] - There can be no clear diabetes symptoms ^[1,3,4] - Leads to an increased risk of developing: <i>[Mention at least 1 for Comprehensiveness]</i> <ul style="list-style-type: none"> → Type 2 diabetes ^[1,4] → Heart disease ^[3] → Stroke ^[3] <p>[1] Diabetes UK. Prediabetes. [Internet]. [cited 2021 Jul 20]. Available from: https://www.diabetes.org.uk/preventing-type-2-diabetes/prediabetes</p> <p>[2] Diabetes Care. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from: https://diabetesjournals.org/care/article/44/Supplement_1/S15/30859/2-Classification-and-Diagnosis-of-Diabetes</p> <p>[3] Centers for Disease Control and Prevention. Prediabetes—Your Chance to Prevent Type 2 Diabetes. [Internet]. [updated 2020 Jun 11; cited 2021 Jul 20]. Available from: https://www.cdc.gov/diabetes/basics/prediabetes.html#:~:text=What%20is%20Prediabetes%3F,t%20know%20they%20have%20it</p> <p>[4] National Institute of Diabetes and Digestive and Kidney Diseases. Insulin Resistance & Prediabetes. [Internet]. [updated 2018 May; cited 2021 Jul 20]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes/prediabetes-insulin-resistance#prediabetes</p>

<p>7. What are the symptoms of diabetes?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “diabetes symptoms”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 16 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Increased thirst ^[1-6] - Passing more urine ^[1-6] - Increased hunger ^[1-6] - Feeling tired ^[1-6]/ fatigue ^[2]/ weakness ^[2] - Blurry vision ^[1-6] - Wounds that do not heal ^[1, 3-6]/ slow healing wounds ^[1] - Unexplained weight loss ^[1-6] - Numbness or tingling in hands or feet ^[1-3,6] - More infections than normal ^[1,5] - Very dry skin ^[1] - Mood swings ^[2,5] - Feelings of irritability ^[2] - Dark rashes around the neck or armpits ^[2] - Genital itching or fungal infection ^[4] - Leg cramps ^[5] - Headaches ^[5] <p>[1] Centers for Disease Control and Prevention. Diabetes Symptoms. [Internet]. [updated 2021 Apr 27; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/basics/symptoms.html</p> <p>[2] American Association of Clinical Endocrinology. Type 2 Diabetes. [Internet]. [cited 2021 Aug 2]. Available from: https://www.aace.com/disease-and-conditions/diabetes/type-2-diabetes</p> <p>[3] American Diabetes Association. Diabetes Symptoms. [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/diabetes/type-2/symptoms</p> <p>[4] Diabetes UK. What are the Signs and Symptoms of Diabetes? [Internet]. [cited 2021 Jul 20]. Available from: https://www.diabetes.org.uk/diabetes-the-basics/diabetes-symptoms</p> <p>[5] Diabetes Australia. What is Diabetes. [Internet]. c2021 [cited 2021 Jul 21]. Available from: https://www.diabetesaustralia.com.au/about-diabetes/what-is-diabetes/</p> <p>[6] National Institute of Diabetes and Digestive and Kidney Diseases. Symptoms & Causes of Diabetes. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/symptoms-causes</p>
<p>8. What can I do to prevent diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes prevention”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 5 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either. Accept ‘aim to lose 5–7% of weight’ also]</i></p> <ul style="list-style-type: none"> - Lose weight ^[1-4] (Aim to lose 5% ^[1]/7% ^[2] of current weight if you are overweight) - Eat healthily ^[1-4] - Choose the right portion size ^[1] - Be physically active ^[1-4] (Achieve least 150 mins per week of moderate-intensity physical activities ^[1,2]) <i>[Note: Accept 30mins for 5 days a week of moderate-intense physical activities ^[1]]</i> - Avoid smoking ^[3] <p>[1] Centers for Disease Control and Prevention. On Your Way to Preventing Type 2 Diabetes. [Internet]. [updated 2019 Oct 3; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/prevent-type-2/guide-prevent-type2-diabetes.html</p>

	<p>[2] Diabetes Care. 3. Prevention or Delay of Type 2 Diabetes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S34</p> <p>[3] World Health Organization. Diabetes. [Internet]. 2021 Apr 13 [cited 2021 Jul 20]. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes</p> <p>[4] National Institute of Diabetes and Digestive and Kidney Diseases. Risk Factors for Type 2 Diabetes. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/risk-factors-type-2-diabetes</p>
<p>9. Does diabetes result in sugar in the urine?</p> <p>Question taken from: HealthHub (FAQ)</p> <p>Original phrasing: “Does diabetes really result in sugar in the urine?”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 3 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Yes, sugar will be present in the urine ^[1,2] - This happens in people with poorly-controlled diabetes ^[1]/with previous undiagnosed diabetes ^[1]/with high blood glucose levels ^[2] - This is because the kidney is unable to absorb back all the sugar in the blood ^[1] <p>[1] HealthHub. Your Diabetes Questions Answered. [Internet]. [updated 2020 Oct 6; cited 2021 Jul 11]. Available from: https://www.healthhub.sg/live-healthy/1392/your-diabetes-questions-answered</p> <p>[2] Diabetes UK. Module A: Principles of Diabetes. [Internet]. [cited 2021 Jul 29]. Available from: https://www.diabetes.org.uk/resources-s3/public/2020-07/Module%20A%20-%204%20%20Blood%20glucose%20and%20urine%20monitoring%20%281%29.pdf</p>
<p>10. Do people with diabetes have a higher risk for flu?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “Diabetes flu risk”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 5 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - No ^[1] - However, diabetes can cause the immune system to be less able to fight infections ^[2] - With any illness, it can also make diabetes harder to control ^[1,2] (as blood glucose level can increase ^[2]) - People with diabetes are more likely to develop serious flu complications compared to people without diabetes ^[1,2] - <i>[Mention at least 1 example of flu complications for Comprehensiveness]</i> ^[2] <ul style="list-style-type: none"> → Sinus infections → Ear infections → Pneumonia → Bronchitis → Hospitalization → Death

	<p>[1] American Diabetes Association. Myths About Diabetes. [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/diabetes-risk/prediabetes/myths-about-diabetes</p> <p>[2] Centers for Disease Control and Prevention. Flu & People with Diabetes. [Internet]. [updated 2021 May 6; cited 2021 Jul 11]. Available from: https://www.cdc.gov/flu/highrisk/diabetes.htm</p>
<p>11. How does diabetes affect pregnancy?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes affect pregnancy”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 12 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Greater chance of developing preeclampsia ^[1,2] (which is a condition that causes high blood pressure during pregnancy ^[2,3]) - Have too much fluid that surrounds the baby in the womb/ too much amniotic fluid ^[1,2] - Increased chance of preterm labor ^[1,2]/Have a baby that is born too early ^[2-4] - Have a baby that is larger than normal ^[2-6] (≥ 9 pounds ^[2]) - Increased difficulty of childbirth ^[2,3,6] - May require induced labor ^[2]/caesarean section ^[1-3,6] - Increased chance of stillborn baby ^[2,4,6] - Increased chance of miscarriage ^[4,6] - Have a baby that has breathing problems ^[3-5] - Have a baby with low blood glucose ^[3] (right after birth ^[2,4,5]) - Have a baby with yellowish skin and eyes/ jaundice after birth ^[2] - Have a baby with birth defects (defects of the brain, spine & heart) ^[4,6] <p>[1] American Diabetes Association. Diabetes and Pregnancy. [Internet]. c1995–2021 [cited 2021 Jul 20]. Available from: https://www.diabetes.org/diabetes/newly-diagnosed/diabetes-and-pregnancy</p> <p>[2] The National Health Service. Gestational Diabetes. [Internet]. [updated 2019 Aug 6; cited 2021 Jul 20]. Available from: https://www.nhs.uk/conditions/gestational-diabetes/</p> <p>[3] Centers for Disease Control and Prevention. Gestational Diabetes. [Internet]. [updated 2019 May 30; cited 2021 Jul 20]. Available from: https://www.cdc.gov/diabetes/basics/gestational.html</p> <p>[4] National Institute of Diabetes and Digestive and Kidney Diseases. Pregnancy If You Have Diabetes. [Internet]. [updated 2017 Jan; cited 2021 Jul 20]. Available from: https://www.niddk.nih.gov/health-information/diabetes/diabetes-pregnancy</p> <p>[5] American Diabetes Association. How Gestational Diabetes Can Impact Your Baby. [Internet]. c1995–2021 [cited 2021 Jul 20]. Available from: https://www.diabetes.org/diabetes/gestational-diabetes/how-will-this-impact-my-baby</p> <p>[6] Diabetes UK. Planning For A Pregnancy When You Have Diabetes. [Internet]. [cited 2021 Jul 20]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/life-with-diabetes/pregnancy</p>

<p>12. How to prevent diabetes after gestational diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 8 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Gestational diabetes usually goes away after the baby is born ^[1,2] - Even if it does go away, there is a greater chance of developing type 2 diabetes ^[2] (within 5–10 years ^[1]) - Get tested for diabetes 6–12 weeks ^[1, 2]/4–12 weeks ^[3] after giving birth (using the Oral Glucose Tolerance Test ^[3]) - If the blood glucose level is normal, go for diabetes screening every 1 to 3 years ^[2,3]/ every 3 years ^[1] - Breastfeed your baby as it helps to burn calories ^[1] - Be physically active ^[1] - Eat healthily ^[1] - Maintain a healthy weight ^[1,2] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Preventing Type 2 Diabetes. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-type-2-diabetes</p> <p>[2] Centers for Disease Control and Prevention. Gestational Diabetes. [Internet]. [updated 2019 May 30; cited 2021 Jul 20]. Available from: https://www.cdc.gov/diabetes/basics/gestational.html</p> <p>[3] Diabetes Care. 14. Management of Diabetes in Pregnancy: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S200</p>
<p>13. Can diabetic people drive?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “Can diabetics drive”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 8 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either. Accept readings in either mg/dL or mmol/L]</i></p> <ul style="list-style-type: none"> - Yes ^[1–5] - However, driving with a low blood glucose level/ hypoglycemia is dangerous ^[1–3] - Driving judgement/safety can be impaired ^[2,4,5] - Hypoglycemia is preventable ^[1,2,5] - Check your blood glucose level before driving ^[2,3,5] - Ensure your blood glucose level is at least 5 mmol/L (90 mg/dL) when you drive ^[2,5] - Check with your healthcare professional if you are at risk of hypoglycemia ^[2,5] - There are also complications of diabetes that make driving difficult ^[2,5]. This includes: <i>[Note: Mention at least 1 for Comprehensiveness]</i> <ul style="list-style-type: none"> → Eye problems ^[2,5] → Nerve problems ^[2,5] → Feet/ circulatory problems ^[2,5] <p>[1] Diabetes.co.uk. Diabetes Myths. [Internet]. 2019 Jan 15 [cited 2021 Jul 11]. Available from: https://www.diabetes.co.uk/diabetes-myths.html</p> <p>[2] National Diabetes Services Scheme. Diabetes and Driving Booklet. [Internet]. 2011 Aug [updated 2021 Apr 4; cited 2021 Aug 3]. Available from: https://www.ndss.com.au/about-diabetes/resources/find-a-resource/diabetes-and-driving-booklet/</p>

	<p>[3] Centers for Disease Control and Prevention. Manage Blood Sugar. [Internet]. [updated 2021 Apr 28; cited 2021 Jul 20]. Available from: https://www.cdc.gov/diabetes/managing/manage-blood-sugar.html</p> <p>[4] American Diabetes Association. Driver’s License Information. [Internet]. c1995–2021 [cited 2021 Jul 20]. Available from: https://diabetes.org/tools-support/know-your-rights/drivers-license-information</p> <p>[5] Diabetes.co.uk. Driving with Diabetes. [Internet]. 2019 Jan 15 [cited 2021 Jul 20]. Available from: https://www.diabetes.co.uk/driving-with-diabetes.html#:~:text=People%20with%20diabetes%20are%20fine,You%20are%20taking%20insulin</p>
<p>14. What are the vaccines recommended for people with diabetes?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “vaccine for diabetes”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 7 points]</i> <i>[For Singapore-specific websites: 4 points. Do not require TDAP & Varicella vaccine recommendations as they are part of the National Childhood Immunisation Schedule. HPV vaccine is only recommended for females aged 9–25/26]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Influenza vaccine ^[1–7] - Hepatitis B vaccine ^[1, 5–7] - Pneumococcal vaccine ^[1,5–8] - COVID-19 vaccine ^[3,7,9,10] <p><u>Not required for Singapore-specific websites</u></p> <ul style="list-style-type: none"> - Tetanus, Diphtheria, Pertussis vaccine/TDAP vaccine ^[1,6,7] - Recombinant Zoster vaccine ^[1,7]/Varicella Zoster vaccine ^[6] - Human Papillomavirus vaccine/HPV vaccine ^[7] <p>[1] Centers for Disease Control and Prevention. Diabetes Type 1 and Type 2 and Adult Vaccination. [Internet]. [updated 2016 May 2; cited 2021 Aug 10]. Available from: https://www.cdc.gov/vaccines/adults/rec-vac/health-conditions/diabetes.html</p> <p>[2] Diabetes UK. Flu Jab and Diabetes. [Internet]. [cited 2021 Aug 10]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/flu-jab#where</p> <p>[3] Diabetes Australia. Be Prepared—Sick Day Management. [Internet]. c2021 [cited 2021 Aug 10]. Available from: https://www.diabetesaustralia.com.au/be-prepared-sick-day-management/</p> <p>[4] Diabetes Australia. Diabetes & Influenza. [Internet]. c2023 [cited 2023 Mar 23]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/flu/</p> <p>[5] HealthXChange. Diabetes: Recommended Vaccinations for Children and Adults. [Internet]. [cited 2021 Aug 10]. Available from: https://www.healthxchange.sg/diabetes/living-well-diabetes/diabetes-recommended-vaccinations-children-adults</p> <p>[6] Health Promotion Board. National Childhood Immunisation Schedule. [Internet]. [updated 2016 Aug 26; cited 2021 Aug 10]. Available from: https://www.nir.hpb.gov.sg/nirp/eservices/immunisationSchedule</p> <p>[7] Diabetes Care. 4. Comprehensive Medical Evaluation and Assessment of Comorbidities: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Aug 10]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S40</p> <p>[8] Diabetes Australia. Pneumococcal Disease & Diabetes. [Internet]. c2021 [cited 2021 Aug 10]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/pneumococcal-disease/</p> <p>[9] National University Hospital. Living With Diabetes During the COVID-19 Pandemic. [Internet]. [updated 2021 Mar 9; cited 2021 Aug 10]. Available from: https://www.nuh.com.sg/our-services/Specialties/Medicine/Endocrinology/Pages/Living-with-Diabetes-during-COVID-19.aspx</p> <p>[10] Diabetes UK. Coronavirus Vaccines and Diabetes. [Internet]. 2021 Jul 30 [cited 2021 Aug 10]. Available from: https://www.diabetes.org.uk/about_us/news/coronavirus-vaccines</p>

Diabetes Diagnosis and Screening	
<p>15. Who should get tested for diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 8 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[Exact phrasing required. Do not accept 'every 3 years' for 'at least every 3 years']</i> <i>[For '/', accept either. Accept readings in either mg/dL or mmol/L]</i></p> <ul style="list-style-type: none"> - People with symptoms of diabetes ^[1,2] - People who are ≥ 45 years old ^[1,3] (Tested at least every 3 years ^[3])/People who are 40–74 years old ^[2,4] (Tested every 5 years ^[4])/People who are ≥ 40 years old ^[5] (Tested once every 3 years ^[5])/People who are 18–39 years old and have been identified as high risk of diabetes from the Singapore Diabetes Risk Assessment questionnaire ^[5] - People of any age who have ≥ 1 diabetes risk factor ^[1–3,5,6] (Tested at least every 3 years ^[3,5]) - Examples of risk factors ^[1,2] include: <i>[For Comprehensiveness: 3 points - mentions 7 - 9 risk factors 2 points - mentions 3 - 6 risk factors 1 point - mentions 1 - 2 risk factors 0 points - if it did not give examples of risk factors]</i> <ul style="list-style-type: none"> → First-degree relative with diabetes/family history of diabetes → Overweight or obese → Certain race/ethnicity (African-Americans/American Indian/Hispanic-Americans/Native Americans/Asian-Americans/Pacific Islanders/Alaska Native/Native Hawaiian/Latino) → History of cardiovascular disease → High blood pressure ($\geq 140/90$ mmHg) or on hypertension therapy → Low HDL cholesterol level (≤ 35 mg/dL (0.90 mmol/L)) and/or high triglyceride (≥ 250mg/dL (2.82 mmol/L)) ^[3]/Low HDL cholesterol level (≤ 1.0 mmol/L for male, < 1.3 mmol/L for female) and/or high triglyceride (2.2 mmol/L)) ^[5] → Women with polycystic ovarian syndrome → Physical inactivity → Other medical conditions associated with insulin resistance (e.g. severe obesity) - People with prediabetes ^[3]/Impaired Glucose Tolerance ^[5]/Impaired Fasting Glucose ^[5] (Tested yearly ^[3,5]) - Women who had gestational diabetes ^[3,6]/delivered a baby > 4 kg ^[5]/delivered a baby > 9 pounds ^[6] (Tested between 4–12 ^[3] weeks/ no later than 12 weeks ^[1] after giving birth. Tested at least every 3 years lifelong ^[3])

	<p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetes Tests & Diagnosis. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/tests-diagnosis</p> <p>[2] Diabetes.co.uk. Diabetes Tests. [Internet]. 2019 Jan 15 [cited 2021 Jul 21]. Available from: https://www.diabetes.co.uk/Diabetes-screening-test.html</p> <p>[3] Diabetes Care. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from: https://diabetesjournals.org/care/article/44/Supplement_1/S15/30859/2-Classification-and-Diagnosis-of-Diabetes</p> <p>[4] The National Health Service. NHS Health Check. [Internet]. [updated 2019 Nov 26; cited 2021 Aug 10]. Available from: https://www.nhs.uk/conditions/nhs-health-check/</p> <p>[5] Ministry of Health Singapore. Diabetes Mellitus Ministry of Health Clinical Practice Guidelines. [Internet]. 2014 Mar [cited 2021 Aug 10]. Available from: https://www.moh.gov.sg/docs/librariesprovider4/guidelines/cpg_diabetes-mellitus-booklet---jul-2014.pdf</p> <p>[6] National Institute of Diabetes and Digestive and Kidney Diseases. Risk Factors for Type 2 Diabetes. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/risk-factors-type-2-diabetes</p>
<p>16. How is diabetes diagnosed?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “how diabetes is diagnosed”</p> <p><i>*Disclaimer required*</i></p> <p><i>*Singapore specific answer present*</i></p>	<p><i>[For Comprehensiveness: 14 points. For Singapore-specific websites: 11 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either. Accept readings in either mg/dL or mmol/L]</i></p> <p><u>Fasting Blood Glucose Test</u></p> <ul style="list-style-type: none"> - <i>[For Comprehensiveness:</i> <ul style="list-style-type: none"> 3 points - mentions 4 - 5 points 2 points - mentions 2 - 3 points 1 point - mentions 1 point 0 points - if it did not give any points] → Using the Fasting Blood Glucose Test ^[1-5] → It measures blood glucose/sugar level at a single point in time ^[1] → Patients have to fast for at least 8 hours ^[1-4] (cannot drink or eat except for sips of water ^[1]) → Test is usually done first thing in the morning before breakfast ^[1,2] → ≥ 126 mg/dL (7.0 mmol/L) indicates diabetes ^[1-7] <p><u>Oral Glucose Tolerance Test</u></p> <ul style="list-style-type: none"> - <i>[For Comprehensiveness:</i> <ul style="list-style-type: none"> 3 points - mentions 4 - 5 points 2 points - mentions 2 - 3 points 1 point - mentions 1 point 0 points - if it did not give any points] → Using the Oral Glucose Tolerance Test ^[1-5] → Measured after patient fast for at least 8 hours ^[1]/have an overnight fast ^[3] → Patients have to take a glucose/sugary drink ^[1-3,6] (75 g glucose ^[4,6]) → Blood glucose/sugar is measured before and 2 h after the drink ^[2] → ≥ 200 mg/dL (≥ 11.1 mmol/L) 2 h after the drink indicates diabetes ^[1-7] <p><u>HbA1c Test</u></p> <p><i>[Note: Not applicable for Singapore-specific websites]</i></p>

- *[For Comprehensiveness:
3 points - mentions 4 - 5 points
2 points - mentions 2 - 3 points
1 point - mentions 1 point
0 points - if it did not give any points]*
→ Using the HbA1c/A1C/Glycated Hemoglobin/Glycosylated Hemoglobin Test ^[1-5]
→ Provides the average level of blood glucose/sugar over the past 2–3 months ^[2, 3]/3 months ^[1]
→ Fasting is not required ^[1,2]
→ Your healthcare professional will decide if HbA1c test is appropriate for your diagnosis ^[1,5]
→ $\geq 6.5\%$ indicates diabetes ^[1-5]

Random Plasma Glucose Test

- *[For Comprehensiveness:
3 points - mentions 3 - 4 points
2 points - mentions 2 points
1 point - mentions 1 point
0 points - if it did not give any points]*
→ If you are having symptoms of hyperglycemia, the healthcare professional will do a random plasma glucose test ^[1-5]
→ This test can be taken at any time ^[1,3]
→ Fasting is not required ^[1,3,6]
→ ≥ 200 mg/dL (≥ 11.1 mmol/L) indicates diabetes ^[1-7]
- One additional positive test on a separate day would usually be required to diagnose diabetes ^[1,2,4,5,7]
- However, if your blood sugar level is very high in a random plasma glucose test or have symptoms of high blood sugar, your healthcare professional may not require a second test ^[2,4,5,7]

[1] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetes Tests & Diagnosis. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: <https://www.niddk.nih.gov/health-information/diabetes/overview/tests-diagnosis>

[2] American Diabetes Association. Diagnosis. [Internet]. c1995–2020 [cited 2021 Jul 11] Available from: <https://www.diabetes.org/a1c/diagnosis>

[3] Centers for Disease Control and Prevention. Diabetes Tests. [Internet]. [updated 2019 May 15; cited 2021 Jul 11]. Available from: <https://www.cdc.gov/diabetes/basics/getting-tested.html>

[4] Diabetes Care. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from:

https://diabetesjournals.org/care/article/44/Supplement_1/S15/30859/2-Classification-and-Diagnosis-of-Diabetes

[5] Diabetes UK. Diagnostic Criteria For Diabetes. [Internet] [cited 2021 Jul 21]. Available from:

https://www.diabetes.org.uk/professionals/position-statements-reports/diagnosis-ongoing-management-monitoring/new_diagnostic_criteria_for_diabetes

[6] HealthXChange. Diabetes: How to Diagnose? [Internet]. c2016 [cited 2021 Aug 10]. Available from:

<https://www.healthxchange.sg/diabetes/essential-guide-diabetes/how-diagnose-diabetes>

[7] Ministry of Health Singapore. Diabetes Mellitus Ministry of Health Clinical Practice Guidelines. [Internet]. 2014 Mar [cited 2021 Aug 10]. Available from:

https://www.moh.gov.sg/docs/librariesprovider4/guidelines/cpg_diabetes-mellitus-booklet---jul-2014.pdf

<p>17. What are the essential diabetes health checks?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes essential health checks”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 9 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[Exact phrasing required. Do not accept ‘every 3 years’ for ‘at least every 3 years’]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Eye examination ^[1-5] (Within 5 years after the diagnosis of type 1 diabetes ^[1,2]. At the time of diagnosis for type 2 diabetes ^[1,2]. At least every 1 year ^[3,4]/1–2 years ^[1,2]/2 years ^[5] thereafter) - Foot examination ^[1-5] (At least annually ^[2-5]) - Kidney examination ^[1,2,4,5] (At least annually ^[5] for people with ≥ 5 years of type 1 diabetes and for people with type 2 diabetes ^[1,2,4]) - Neuropathy ^[1,3] (5 years after the diagnosis of type 1 diabetes. At the time of diagnosis for type 2 diabetes ^[1,2]. At least annually ^[2,3] thereafter) - Lipid panel/cholesterol & triglycerides ^[2-5] (Every 6 months ^[2,3] or annually ^[2-5]/For people <40 years old: At diagnosis & at least every 5 years thereafter ^[2]) - Blood pressure ^[2-5] (At least every 3–6 months ^[4]/every 6–12 months ^[5]/every visit to a healthcare professional ^[2,3]) - HbA1c ^[2,4,5] (Every 3 or 6 months ^[2,4]/ 6–12 months ^[5]) - Height and Weight ^[4]/Body Mass Index ^[2] (At least every 3–6 months ^[4]/every visit to a healthcare professional ^[2]) - Dental check ^[5] (Annually ^[5]) <p>[1] Diabetes Care. 11. Microvascular Complications and Foot Care: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S151</p> <p>[2] American Diabetes Association. Health Checks for People with Diabetes. [Internet]. c1995–2021 [cited 2021 Jul 21]. Available from: https://www.diabetes.org/diabetes/newly-diagnosed/health-checks-people-with-diabetes</p> <p>[3] Diabetes.co.uk. Diabetes Checks [Internet]. 2019 Jan 15 [cited 2021 Jul 21]. Available from: https://www.diabetes.co.uk/diabetes-checks.html</p> <p>[4] HealthHub. Diabetes Hub: Guide to Managing Diabetes. [Internet]. [cited 2021 Jul 11]. Available from: https://www.healthhub.sg/programmes/162/diabetes-hub/diabetes-management/monitoring</p> <p>[5] National Diabetes Services Scheme. Diabetes Health Checks. [Internet]. [cited 2021 Jul 30]. Available from: https://www.ndss.com.au/living-with-diabetes/health-management/diabetes-health-checks/</p>
Diabetes Self-Management	
<p>18. How to manage diabetes?</p> <p>Question taken from:</p>	<p><i>[For Comprehensiveness: 13 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either. Accept readings in either mg/dL or mmol/L]</i></p> <ul style="list-style-type: none"> - Check your blood glucose/sugar levels regularly ^[1-3]

<p>AnswerThePublic</p> <p>Original phrasing: “how manage diabetes”</p> <p><i>*Disclaimer required*</i></p>	<ul style="list-style-type: none"> - Meet your targeted HbA1c levels ^[1-3] (6.5 % ^[4]/7% ^[1,2,4]/8% ^[2,4]/ 9% ^[4]) - Meet your targeted blood pressure level (<130/80 mmHg ^[4]/<>140/90 mmHg ^[1,4]) - Meet your targeted cholesterol levels ^[1,4] (LDL: <100 mg/dL (2.60 mmol/L)/ <70 mg/dL (1.8mmol/L)/ <55 mg/dL (1.4 mmol/L)) ^[4] - Go for check-ups regularly for diabetes complications ^[3] - Stop smoking ^[1] - Eat healthily ^[1-3,5] - Exercise regularly ^[1,2,4,5] - Maintain a healthy weight ^[4,5] (weight loss of >5% for those who are obese ^[4]/ overweight ^[5]) - Learn more about how to manage the disease ^[2,3] - Take care of your emotional well-being ^[2,3] - Take your prescribed anti-diabetic medication ^[1,5] - Work with your healthcare professionals on a plan to manage your diabetes ^[1] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Managing Diabetes. [Internet]. [updated 2016 Dec; 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/managing-diabetes</p> <p>[2] Centers for Disease Control and Prevention. Living With Diabetes. [Internet]. [updated 2021 May 21; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/managing/index.html</p> <p>[3] Diabetes UK. Living with Diabetes. [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes</p> <p>[4] European Heart Journal. 2019 ESC Guidelines on Diabetes, Pre-diabetes, and Cardiovascular Diseases Developed in Collaboration with the EASD: The Task Force for Diabetes, Pre-diabetes, and Cardiovascular Diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD). [Internet]. 2020 Jan 7 [cited 2021 Jul 24]. Available from: https://academic.oup.com/eurheartj/article/41/2/255/5556890</p> <p>[5] HealthHub. Guide to Healthy Eating for Managing Diabetes Mellitus. [Internet]. [updated 2021 May 31; cited 2021 Aug 10]. Available from: https://www.healthhub.sg/live-healthy/838/healthy-eating-for-managing-diabetes</p>
<p>19. What is <u>Continuous Glucose Monitoring</u>?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “continuous blood glucose monitoring”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 12 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Continuous glucose monitoring works through a tiny sensor/ device ^[1-3] - The sensor is placed under the skin ^[1-3] - The sensor is disposable ^[3]/has to be replaced ^[1,2] - The sensor measures the glucose levels in the interstitial fluid/fluids that surrounds the body cells ^[1,2] - This happens throughout the day and night ^[1]/is continuous ^[2,3] - Allows you to see the trends in glucose level ^[1-3] - A transmitter would wirelessly send the glucose information to a monitor ^[1]/ display device ^[2] - The monitor/display device can be an insulin pump ^[1-3] - The monitor/display device can be a separate device ^[1,2]

	<ul style="list-style-type: none"> - The continuous glucose monitor needs to be checked twice a day by comparing it to a glucometer test ^[1,2] - The readings should be similar on both devices ^[1] - However, there can be a small time delay/time lag when checking the glucose levels from the interstitial fluid compared to blood (especially after eating/if you are exercising) ^[2] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Continuous Glucose Monitoring. [Internet]. [updated 2017 Jun; 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/managing-diabetes/continuous-glucose-monitoring</p> <p>[2] Diabetes UK. Flash Glucose Monitors (Freestyle Libre) and Continuous Glucose Monitors (CGM). [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/testing/continuous-glucose-monitoring-cgm</p> <p>[3] Diabetes Australia. Blood Glucose Monitoring. [Internet]. c2023 [cited 2023 Mar 23]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/blood-glucose-monitoring/#:~:text=The%20sensor%20reads%20glucose%20levels,are%20outside%20your%20target%20range</p>
<p>20. Who qualifies for <u>continuous glucose monitoring</u>?</p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 8 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - People who are on insulin therapy that requires tight blood sugar control ^[1,2] - People who often have trouble maintaining their blood glucose/sugar to target ^[2, 3]/ often have high or low blood glucose ^[1] - People who do not feel or recognize the symptoms of hypoglycemia / have hypoglycemia unawareness ^[1,3] - People who have type 1 diabetes and are pregnant ^[3] - People who have one severe hypoglycemia incident a year and do not know the cause ^[3] - People who have >2 hypoglycemia incidents a week with no symptoms and it affects their daily life ^[3] - People who have an extreme fear of experiencing a hypoglycemic incident ^[3] - People who have a HbA1c > 9% despite testing at least 10 times a day ^[3] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Continuous Glucose Monitoring. [Internet]. [updated 2017 Jun; 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/managing-diabetes/continuous-glucose-monitoring</p> <p>[2] Diabetes Care. 7. Diabetes Technology: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S85</p> <p>[3] Diabetes UK. Flash Glucose Monitors (Freestyle Libre) and Continuous Glucose Monitors (CGM). [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/testing/continuous-glucose-monitoring-cgm</p>
<p>21. What are the benefits of <u>continuous glucose monitoring</u>?</p>	<p><i>[For Comprehensiveness: 5 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Fewer low blood glucose/hypoglycemia events ^[1–3] - Fewer finger pricks required ^[2–4]

<p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “continuous glucose monitoring benefits”</p> <p><i>*Disclaimer required*</i></p>	<ul style="list-style-type: none"> - Provide glucose trends ^[2]/able to see glucose levels throughout the day and night ^[3,4] [<i>Accept: Continuous</i>] - Enables better management of glucose levels everyday ^[2,3] - Can provide notifications when glucose level is too high or low ^[1,3] <p>[1] Diabetes Care. 7. Diabetes Technology: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S85</p> <p>[2] National Institute of Diabetes and Digestive and Kidney Diseases. Continuous Glucose Monitoring. [Internet]. [updated 2017 Jun; 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/managing-diabetes/continuous-glucose-monitoring</p> <p>[3] Diabetes UK. Flash Glucose Monitors (Freestyle Libre) and Continuous Glucose Monitors (CGM). [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/testing/continuous-glucose-monitoring-cgm</p> <p>[4] NDSS (National Diabetes Services Scheme). Continuous and Flash Glucose Monitoring. [Internet]. [cited 2021 Jul 25]. Available from: https://www.ndss.com.au/living-with-diabetes/managing-diabetes/continuous-glucose-monitoring/</p>
<p>22. How does artificial pancreas work?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “how artificial pancreas work”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 6 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Monitors blood glucose levels using the continuous glucose monitoring sensor ^[1–5] - Automatically calculates the amount of insulin needed ^[1–5] (through an algorithm ^[2]) - Delivers insulin through a pump ^[1–5] - It can also calculate both the amount of insulin and glucagon needed and deliver it through a pump ^[1,4] - This artificial pancreas system prevents low or high blood glucose levels ^[3] - Mimics the function of a human pancreas ^[3,4] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Continuous Glucose Monitoring. [Internet]. [updated 2017 Jun; 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/managing-diabetes/continuous-glucose-monitoring</p> <p>[2] Diabetes Care. 7. Diabetes Technology: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S85</p> <p>[3] U.S. Food and Drug Administration. What is the Pancreas? What is an Artificial Pancreas Device System? [Internet]. [updated 2018 Aug 30; cited 2021 Jul 30]. Available from: https://www.fda.gov/medical-devices/artificial-pancreas-device-system/what-pancreas-what-artificial-pancreas-device-system</p> <p>[4] Diabetes.co.uk. Artificial Pancreas. [Internet]. 2019 Jan 15 [cited 2021 Jul 30]. Available from: https://www.diabetes.co.uk/artificial-pancreas.html</p> <p>[5] Diabetes UK. Research Spotlight—The Artificial Pancreas. [Internet]. [cited 2021 Jul 30]. Available from: https://www.diabetes.org.uk/research/research-round-up/research-spotlight/research-spotlight-the-artificial-pancreas</p>
<p>23. What are the <u>artificial pancreas</u> approved by the FDA?</p>	<p><i>[For Comprehensiveness: 3 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below]</i></p> <ul style="list-style-type: none"> - MiniMed 670G System (by Medtronic. Approved on 28 Sep 2016) ^[1] - MiniMed 770G System (by Medtronic. Approved on 31 Aug 2020) ^[2] - Control-IQ Technology (by Tandem Diabetes Care. Approved on 13 Dec 2019) ^[3]

<p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “artificial pancreas approved by FDA”</p> <p><i>*Disclaimer required*</i></p>	<p>[1] U.S. Food and Drug Administration. The Artificial Pancreas Device System. [Internet]. [updated 2018 Aug 30; cited 2021 Aug 30]. Available from: https://www.fda.gov/medical-devices/consumer-products/artificial-pancreas-device-system</p> <p>[2] U.S. Food and Drug Administration. MiniMed 770G System - P160017/S076. [Internet]. [updated 2020 Dec 23; cited 2021 Aug 30]. Available from: https://www.fda.gov/medical-devices/recently-approved-devices/minimed-770g-system-p160017s076</p> <p>[3] U.S. Food and Drug Administration. FDA Authorizes First Interoperable, Automated Insulin Dosing Controller Designed to Allow More Choices for Patients Looking to Customize Their Individual Diabetes Management Device System. [Internet]. 2019 Dec 13 [cited 2021 Aug 30]. Available from: https://www.fda.gov/news-events/press-announcements/fda-authorizes-first-interoperable-automated-insulin-dosing-controller-designed-allow-more-choices</p>
<p>24. When should I do a <u>glucometer</u> test?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “glucometer when to test”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 22 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <p><u>Check your blood glucose:</u></p> <ul style="list-style-type: none"> - When you are fasting ^[1] - Before a meal ^[1-5] - 2 hours after a meal ^[3-5] - At bedtime ^[1,4]/before bedtime ^[2,3] - When you are sick ^[2-5] - Before ^[1,3-5]/during ^[4]/after ^[5] exercise - When you are pregnant ^[2,3]/planning pregnancy ^[2,3] - Before driving ^[1,2] - Once every 2h if you are driving for a long journey ^[2] - When you have symptoms of hyperglycemia ^[3] - When you have symptoms of hypoglycemia ^[1-5] - When you cannot recognize you have hypoglycemia ^[2] - When you have regular hypoglycemia ^[2] - After treating a hypoglycemia ^[1] - When you are experiencing changes in your daily routine/eating habits ^[3] - When you are changing/adjusting insulin medication/starting on a new medication ^[3] - When you are not achieving your target HbA1c ^[2] - Before high risk activities ^[4] - Post dental procedure/pre or post minor day surgical procedures ^[3] - When you are breastfeeding ^[2] <ul style="list-style-type: none"> - People with type 1 diabetes are recommended to test their blood glucose level at least 4 times a day ^[2,3] - Always speak to your healthcare professional to check how often and when to do the test ^[4,5] <p>[1] Diabetes Care. 7. Diabetes Technology: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S85</p>

	<p>[2] Diabetes.co.uk. How Often Do I Need to Test My Blood Glucose? [Internet]. 2019 Jan 15 [cited 2021 Jul 25]. Available from: https://www.diabetes.co.uk/diabetes_care/how-often-should-i-blood-test.html</p> <p>[3] Diabetes Australia. Blood Glucose Monitoring. [Internet]. c2021 [cited 2021 Jul 25]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/managing-your-diabetes/blood-glucose-monitoring/</p> <p>[4] National University Hospital. Checking Blood Sugar Levels. [Internet]. [updated 2021 Jan 29; cited 2021 Jul 11]. Available from: https://www.nuh.com.sg/our-services/Specialties/Medicine/Endocrinology/Pages/Checking-Blood-Sugar-Levels.aspx</p> <p>[5] HealthHub. Monitoring. [Internet]. [cited 2021 Jul 11]. Available from: https://www.healthhub.sg/programmes/162/diabetes-hub/diabetes-management/monitoring</p>
<p>25. How to use a <u>glucometer</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “glucometer how to use”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 9 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Wash and dry hands ^[1–4] - Put the test strip into the meter ^[1–4] - Prick the side of the finger with the lancet/ lancing device ^[1–4] - You may need to squeeze your finger tip to get a drop of blood ^[2,3] - Touch and hold the test strip opening to the blood drop until it has absorbed enough blood to begin the test ^[1–4] - Clean off the blood from your finger ^[2]/stop the bleeding from your finger ^[4] - Record down the result ^[2–4] - Discard the test strip ^[2,4] - Discard the used lancet into a sharps bin ^[2, 4]/puncture-resistant plastic container ^[3]/metal tin ^[3] <p>[1] American Diabetes Association. The Big Picture: Checking Your Blood Sugar. [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/blood-glucose-testing-and-control/checking-your-blood-sugar</p> <p>[2] Diabetes UK. Checking Your Blood Sugar Levels. [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/testing</p> <p>[3] Diabetes.co.uk. How to Test Your Blood Glucose. [Internet]. [updated 2019 Jan 15; cited 2021 Jul 11]. Available from: https://www.diabetes.co.uk/blood-glucose/how-to-test-blood-glucose-levels.html</p> <p>[4] HealthHub. Diabetes Hub: Guide to Managing Diabetes. [Internet]. [cited 2021 Aug 11]. Available from: https://www.healthhub.sg/programmes/162/diabetes-hub/diabetes-management/monitoring</p>
<p>26. What is the <u>blood glucose</u> target for diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “blood</p>	<p><i>[For Comprehensiveness: 2 points. 1 point for glucose level before meals and 1 point for glucose level after meals]</i> <i>[For Accuracy: check against everything written below]</i> <i>[Accept readings in either mg/dL or mmol/L]</i></p> <p><u>Glucose level before meals (fasting blood glucose)</u> <i>[1 point; requires any 1 of the organization name & the corresponding recommended glucose range(s)]</i></p> <ul style="list-style-type: none"> - American Diabetes Association (ADA) ^[1] → 80–130 mg/dL (4.4–7.2 mmol/L) - Ministry of Health Singapore (MOH) ^[2] → 72–126 mg/dL (4.0–7.0 mmol/L)

<p>glucose targets”</p> <p><i>*Disclaimer required*</i></p>	<ul style="list-style-type: none"> - American Association of Clinical Endocrinology (AACE) ^[3] → <110 mg/dL (6.1 mmol/L) - The Royal Australian College of General Practitioners (RACGP) and Diabetes Australia ^[4] → 72–126 mg/dL (4.0–7.0 mmol/L) - National Institute of Clinical Excellence (NICE) ^[5] → 90–126 mg/dL (5.0–7.0 mmol/L) upon waking & 72–126 mg/dL (4.0–7.0 mmol/L) at other times of the day <p><u>Glucose level after meals (postprandial glucose)</u> <i>[1 point; requires any 1 of the organization name & the corresponding recommended glucose range(s)]</i></p> <ul style="list-style-type: none"> - American Diabetes Association (ADA) ^[1] → <180 mg/dL (10 mmol/L) 2 h after meals - Ministry of Health Singapore (MOH) ^[2] → <180 mg/dL (10 mmol/L) 2 h after meals - American Association of Clinical Endocrinology (AACE) ^[3] → <140 mg/dL (7.8 mmol/L) 2 h after meals - The Royal Australian College of General Practitioners (RACGP) and Diabetes Australia ^[4] → 90–180 mg/dL (5–10 mmol/L) 2 h after meals - National Institute of Clinical Excellence (NICE) ^[5,6] → 90–162 mg/dL (5–9 mmol/L) 1.5 h after meals - International Diabetes Federation ^[6] → 160 mg/dL (9.0 mmol/L) 1–2 h after meal <p>[1] Diabetes Care. 6. Glycemic Targets: Standards of Medical Care in Diabetes—2021. [Internet] 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S73</p> <p>[2] Ministry of Health Singapore. Diabetes Mellitus Ministry of Health Clinical Practice Guidelines. [Internet]. 2014 Mar [cited 2021 Jul 11]. Available from: https://www.moh.gov.sg/docs/librariesprovider4/guidelines/cpg_diabetes-mellitus-booklet---jul-2014.pdf</p> <p>[3] American Association of Clinical Endocrinology. American Association of Clinical Endocrinologists and American College of Endocrinology—Clinical Practice Guidelines for Developing A Diabetes Mellitus Comprehensive Care Plan—2015. [Internet]. 2015 Apr 1 [cited 2021 Jul 25]. Available from: https://www.endocrinepractice.org/article/S1530-891X(20)43462-7/fulltext</p> <p>[4] The Royal Australian College of General Practitioners and Diabetes Australia. Management of Type 2 Diabetes: A Handbook for General Practice [Internet]. 2020 Jul [cited 2021 Jul 25]. Available from: https://www.diabetesaustralia.com.au/wp-content/uploads/Available-here.pdf</p> <p>[5] National Institute for Health and Care Excellence. Type 1 Diabetes in Adults: Diagnosis and Management. [Internet]. 2015 Aug 26 [updated 2021 Jul 21; cited 2021 Jul 30]. Available from: https://www.nice.org.uk/guidance/ng17/chapter/Recommendations#blood-glucose-management</p>
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	<p>[6] International Diabetes Federation. 2011 Guideline for Management of PostMeal Glucose in Diabetes. [Internet]. [updated 2017 Apr 10; cited 2021 Aug 14]. Available from: https://www.idf.org/e-library/guidelines/82-management-of-postmeal-glucose.html</p>
<p>27. What is the <u>HbA1c</u> target for diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “HbA1c targets”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 1 point]</i> <i>[For Accuracy: check against everything written below]</i></p> <ul style="list-style-type: none"> - $\leq 6.5\%$ ^[1-3] / $< 7.0\%$ ^[2,4,5] / $\leq 7.0\%$ ^[3,6] / $< 8\%$ ^[2] / $\leq 9\%$ ^[2] <p>[1] American Association of Clinical Endocrinology. American Association Of Clinical Endocrinologists and American College of Endocrinology—Clinical Practice Guidelines for Developing A Diabetes Mellitus Comprehensive Care Plan—2015. [Internet]. 2015 Apr 1 [cited 2021 Jul 25]. Available from: https://www.endocrinepractice.org/article/S1530-891X(20)43462-7/fulltext</p> <p>[2] European Heart Journal. 2019 ESC Guidelines on Diabetes, Pre-diabetes, and Cardiovascular Diseases Developed in Collaboration with the EASD: The Task Force for Diabetes, Pre-diabetes, and Cardiovascular Diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD). [Internet]. 2020 Jan 7 [cited 2021 Aug 26]. Available from: https://academic.oup.com/eurheartj/article/41/2/255/5556890</p> <p>[3] National Institute for Health and Care Excellence. Type 2 Diabetes in Adults: Management. [Internet] 2015 Dec 2 [updated 2020 Dec 16; cited 2021 Jul 25]. Available from: https://www.nice.org.uk/guidance/ng28/resources/type-2-diabetes-in-adults-management-pdf-1837338615493</p> <p>[4] Diabetes Care. 6. Glycemic Targets: Standards of Medical Care in Diabetes—2021. [Internet] 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S73</p> <p>[5] Ministry of Health Singapore. Diabetes Mellitus Ministry of Health Clinical Practice Guidelines. [Internet]. 2014 Mar [cited 2021 Jul 11]. Available from: https://www.moh.gov.sg/docs/librariesprovider4/guidelines/cpg_diabetes-mellitus-booklet---jul-2014.pdf</p> <p>[6] The Royal Australian College of General Practitioners and Diabetes Australia. Management of Type 2 Diabetes: A Handbook for General Practice [Internet]. 2020 Jul [cited 2021 Jul 25]. Available from: https://www.diabetesaustralia.com.au/wp-content/uploads/Available-here.pdf</p>
<p>28. How to have a less painful glucometer test?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “glucometer less pain”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 8 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Make sure your hands are clean and dry ^[1] - Wash hands with warm water before the test ^[2,3] - Prick the side of the fingertip rather than the pad ^[2]/middle ^[3]/tip ^[1,2]/too close to the nail ^[3] - Alternate the fingers each time ^[1] - Avoid the thumb or index finger ^[1,3] - Use a new lancet each time ^[1] - Pick a lancing device you are comfortable with ^[1] - Shorten the lancet depth ^[1] <p>[1] National University Hospital. Checking Blood Sugar Levels. [Internet]. [updated 2021 Jan 29; cited 2021 Jul 25]. Available from: https://www.nuh.com.sg/our-services/Specialties/Medicine/Endocrinology/Pages/Checking-Blood-Sugar-Levels.aspx#topfivetips</p> <p>[2] Diabetes.co.uk. How to Test Your Blood Glucose. [Internet]. [updated 2019 Jan 15; cited 2021 Jul 11]. Available from: https://www.diabetes.co.uk/blood-glucose/how-to-test-blood-glucose-levels.html</p> <p>[3] Diabetes UK. Checking Your Blood Sugar Levels. [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/testing</p>

<p>29. Can <u>glucometers</u> be shared?</p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 2 points]</i> <i>[For Accuracy: check against everything written below]</i></p> <ul style="list-style-type: none"> - Whenever possible, glucometers should not be shared ^[1] - If they must be shared, it has to be cleaned and disinfected as per manufacturer’s instructions after each use ^[1] <p>[1] Centers for Disease Control and Prevention. Injection Safety. [Internet]. [updated 2011 Mar 2; cited 2021 Jul 11]. Available from: https://www.cdc.gov/injectionsafety/blood-glucose-monitoring.html#:~:text=Whenever%20possible%2C%20blood%20glucose%20meters,it%20should%20not%20be%20shared</p>
<p>30. How accurate are <u>glucometers</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “glucometer accuracy”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 3 points. EITHER the FDA or ISO recommendation]</i> <i>[For Accuracy: check against everything written below]</i> <i>[Accept readings in either mg/dL or mmol/L]</i></p> <p><u>Food and Drug Administration (FDA) Recommendation</u> ^[1,2]</p> <ul style="list-style-type: none"> - According to FDA - 95% accurate within the 15% for all readings within the “usable” blood glucose range - 99% accurate within the 20% for all readings within the “usable” blood glucose range <p><i>[Note: “usable blood glucose range” refers to the range of values where the meter is proven to be accurate/ used for measurement]</i></p> <p><u>International Organization for Standardization (ISO) Recommendation</u> ^[1,3]</p> <ul style="list-style-type: none"> - According to ISO 15197:2013 - 95% accurate within 15% for blood glucose ≥ 100 mg/dL (5.6 mmol/L) - 95% accurate within 15% for blood glucose < 100 mg/dL (5.6 mmol/L) <p>[1] Diabetes Care. 7. Diabetes Technology: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S85</p> <p>[2] U.S. Food and Drug Administration. Self-Monitoring Blood Glucose Test Systems for Over-The-Counter Use. [Internet] 2021 Sep 29 [cited 2021 Jul 16]. Available from: https://www.fda.gov/media/87721/download</p> <p>[3] Diabetes.co.uk. Blood Glucose Meter Accuracy. [Internet]. 2019 Jan 15 [cited 2021 Jul 25]. Available from: https://www.diabetes.co.uk/blood-glucose-meters/blood-glucose-meter-accuracy.html</p>
<p>31. What food to avoid if I have diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes</p>	<p><i>[For Comprehensiveness: 9 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <p><u>Avoid/Limit/Minimize eating</u></p> <ul style="list-style-type: none"> - Food high in trans fats <i>[Accept examples of trans fats: Fried food/Margarine/Packaged food/ Processed food/ Snacks/ Chips/Crackers ^[1-4]]</i> - Food high in saturated fats ^[2,5] <i>[Accept examples of saturated fats: Fatty meat/Red meat/Cream/Milk/Butter/ Lard/Cheese/Margarine/Coconut products/Copha/Palm oil ^[2,5]]</i> - Food high in sodium (limit of < 2300 mg/day) ^[1,4] - Food high in salt (limit of < 6 g/day) ^[5]

<p>foods to avoid”</p> <p><i>*Disclaimer required*</i></p>	<ul style="list-style-type: none"> - Sweets ^[1,2,7]/Candy ^[1,2]/Chocolates ^[2,7]/Ice cream ^[1]/Cake ^[2] - Beverages with added sugars ^[1-3,5] <i>[Accept examples: Juice/Energy drinks/Flavored drinks ^[1-3,5]]</i> - Food with added sugars and refined grain ^[5] <i>[Accept examples: white bread/rice/pasta ^[5]]</i> - Alcohol ^[1,3,5-7] - Starchy vegetables ^[6] <i>[Accept examples: Potatoes/Corns] ^[6]</i> <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetes Diet, Eating, & Physical Activity. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/diet-eating-physical-activity</p> <p>[2] Diabetes Australia. Healthy Diet for Diabetes. [Internet] c2023 [cited 2023 Mar 23]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/healthy-eating/</p> <p>[3] Centers for Disease Control and Prevention. On Your Way to Preventing Type 2 Diabetes. [Internet]. [updated 2019 Oct 3; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/prevent-type-2/guide-prevent-type2-diabetes.html</p> <p>[4] Diabetes Care. 5. Facilitating Behavior Change and Well-being to Improve Health Outcomes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S53</p> <p>[5] Diabetes UK. 10 Tips for Healthy Eating with Diabetes. [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/eating-with-diabetes/10-ways-to-eat-well-with-diabetes</p> <p>[6] American Diabetes Association. What is the Diabetes Plate Method? [Internet] c1995–2021 [updated 2020 Feb; cited 2021 Jul 14]. Available from: https://www.diabetesfoodhub.org/articles/what-is-the-diabetes-plate-method.html</p> <p>[7] HealthHub. The Myths and Truths about A Diabetes Diet. [Internet]. [cited 2021 Jul 11]. Available from: https://www.healthhub.sg/live-healthy/1274/bitter-truths-the-myths-and-truths-about-diabetes-and-food</p>
<p>32. Can I consume alcohol if I have diabetes?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “diabetes alcohol consumption”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 10 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Alcohol can cause hypoglycemia ^[1-3] - Hypoglycemia can occur especially in people who are on diabetes medication ^[1-5] (such as insulin, sulfonylureas & meglitinides ^[1,2,4]) - Hyperglycemia can occur for those who consume excessive amounts ^[2,4] (>3 drinks/day) ^[2] - Alcohol consumption can also cause weight gain (due to the calories present in alcoholic drinks) ^[1,4] - Monitor blood glucose before ^[3]/after drinking ^[1,4] - Eat some food when you drink alcohol to minimize risk of hypoglycemia ^[1-3] - Recommended limit for women: No more than 1 drink per day ^[3,4]/no more than 1 serving of light beer, wine or spirits per day ^[5] - Recommended limit for men: No more than 2 drinks per day ^[3,4]/no more than 1 serving of light beer, wine or spirits per day ^[5] - <i>[Mentions the example of 1 drink or 1 serving for Comprehensiveness]</i> → 1 drink is equivalent to 12-oz beer/5-oz glass of wine/1.5-oz of distilled spirits ^[4] → 1 serving is equivalent to 330 ml of beer/1 can of beer/175 mL of wine/½ glass of wine/35 mL spirit/1 shot of spirit ^[5]

	<ul style="list-style-type: none"> - Talk to your healthcare professional about your drinking habits so that they can provide you with advice ^[1] <p>[1] Diabetes UK. Alcohol and Diabetes. [Internet]. [cited 2021 Jul 25]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/what-to-drink-with-diabetes/alcohol-and-diabetes</p> <p>[2] American Diabetes Association. Alcohol & Diabetes. [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/alcohol-diabetes</p> <p>[3] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetes Diet, Eating, & Physical Activity. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/diet-eating-physical-activity</p> <p>[4] Diabetes Care. 5. Facilitating Behavior Change and Well-being to Improve Health Outcomes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S53</p> <p>[5] HealthHub. The Myths and Truths about A Diabetes Diet. [Internet]. [cited 2021 Jul 11]. Available from: https://www.healthhub.sg/live-healthy/1274/bitter-truths-the-myths-and-truths-about-diabetes-and-food</p>
<p>33. Can vitamins help diabetes?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes vitamin”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 6 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - No clear proof that taking vitamins/supplements can help manage diabetes ^[1–3] (for those without vitamin deficiencies ^[3,4]) - Best to get vitamins from food ^[2,3] - Might need vitamins if you are not getting enough vitamins from food ^[1,3] - Vitamins should not be a substitute for diabetes medications ^[3] - Speak to your healthcare provider so that they can advise you ^[2] - Some supplements can affect your current medications/cause side effects/worsen diabetes complications ^[1–3] <p><u>On Specific Vitamins/Supplements</u> <i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i></p> <p>→ Chromium: It can damage the kidneys and worsen the disease ^[2]/Insufficient evidence ^[4]/May help in older people with type 2 diabetes and in infants with protein-calorie malnutrition ^[5]</p> <p>→ Cinnamon: Does not provide a reliable drop in blood sugar ^[2]/Insufficient evidence ^[4]</p> <p>→ Curcumin: Insufficient evidence ^[4]</p> <p>→ Vitamin E: Avoid if you are taking blood-thinning medication ^[2]</p> <p>→ Niacin: Can raise fasting blood glucose levels ^[2]</p> <p>→ Vitamin B12: For those who are taking Metformin have lower levels of Vit B12. Talk to healthcare professional first before taking it ^[2,4]</p> <p>→ Vitamin A: Lack of evidence of efficacy/Concerns related to long term safety ^[4]</p> <p>→ Vitamin C & E: Inconclusive evidence that it can prevent diabetes and diabetes complications ^[2]/Concerns related to long term safety ^[4]</p> <p>→ Vitamin D: There is an association between higher Vit D levels in blood during childhood and lower type 1 diabetes risk/ More research is needed for this ^[2]/Insufficient evidence ^[4]</p> <p>→ Alpha-Lipoic Acid: Reduces pain from diabetic neuropathy/Results are mixed ^[2]</p>

	<p>→ Aloe Vera: Insufficient evidence ^[4]</p> <p><u>American Diabetes Association (ADA) Guidelines for healthcare professional</u> <i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i></p> <p>→ For special populations such as elderly, pregnant or lactating women, vegetarians or people following very-low-calorie or low-carbohydrate diets, multivitamin may be necessary ^[4]</p> <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetes Diet, Eating, & Physical Activity. [Internet]. [updated 2016 Dec; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/diet-eating-physical-activity</p> <p>[2] American Diabetes Association. Vitamins & Diabetes. [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/recipes-nutrition/vitamins-diabetes</p> <p>[3] Diabetes UK. Herbal and Food Supplements. [Internet]. [cited 2021 Aug 2]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/enjoy-food/eating-with-diabetes/herbal-and-food-supplements</p> <p>[4] Diabetes Care. 5. Facilitating Behavior Change and Well-being to Improve Health Outcomes: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S53</p> <p>[5] Medline Plus. Chromium in Diet. [Internet]. [updated 2021 Jul 2; cited 2021 Aug 11]. Available from: https://medlineplus.gov/ency/article/002418.htm</p>
Diabetes Treatment	
<p>34. What are the types of <u>insulin</u>?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “types of insulin”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 28 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i> <i>[Exact ranges required]</i></p> <ul style="list-style-type: none"> - Rapid-Acting Insulin ^[1–3] - Works 5 mins ^[2]/15 mins ^[1,3]/2.5–20 mins ^[4]/very quickly ^[5] after the injection - Peaks 1 h ^[2, 3]/1–2 h ^[1]/1–3 h ^[4] after the injection - Duration lasts 2–4 h ^[1–3]/5 h ^[4] - <i>[Mention at least 1 example of Rapid Acting Insulin for Comprehensiveness]</i> → Insulin Aspart (Flasp® ^[1,5]/NovoLog® ^[1]/Novorapid® ^[4]) → Insulin Glulisine (Apidra®) ^[1,5] → Insulin Lispro (Admelog®/Humalog®) ^[1,2] - Regular/Short-Acting Insulin ^[1–3,5] - Works 30 mins ^[1–3,5] after the injection - Peaks 1–3 h ^[2]/2–3 h ^[1,3]/ 2–4 h ^[2]/2–5 h ^[4] after the injection - Duration lasts 3–6 h ^[1,3]/ 6–8h ^[2,4] - <i>[Mention at least 1 example of Regular/ Short Acting Insulins for Comprehensiveness]</i> → Human Regular (Humulin R® ^[1,2]/Novolin R® ^[1]/Velosulin R® ^[1]/Humulin S® ^[5]/Actrapid® ^[2,5]) - Intermediate-Acting Insulin ^[1–3,5] - Works 1–2 h ^[2]/1–1.5 h ^[4]/1.5 h ^[2]/1–3 h ^[2]/2.5 h ^[2]/2–4 h ^[1,3] after the injection

- Peaks 4–12 h ^[1-4]/6–12 h ^[2]/7–15 h ^[2] after the injection
- Duration lasts 12–18 h ^[1,3]/16–24 h ^[4]/18–24 h ^[2]/throughout the day ^[5]
- Example of Intermediate-Acting Insulins:
→ NPH (Humulin N[®] ^[1,2]/Humulin L[®] ^[2] Novolin N[®] ^[1]/Insulatard[®] ^[2,4]/Monotard[®] ^[2]/ReliOn[®] ^[1]/Isophane [®] ^[4]/Protaphane [®] ^[4]/Insuman Basal [®] ^[5])
- Long-Acting Insulin ^[1-3,5]
- Works 3 h ^[2]/several hours after the injection ^[1,3]
- Peaks 6–14 h ^[2]/does not peak ^[3]
- Duration lasts up to 24h ^[1-3]/longer than 24 h ^[3]
- *[Mention at least 1 example of Long Acting Insulins for Comprehensiveness]*
→ Degludec (Tresiba[®]) ^[1]
→ Detemir (Levemir[®]) ^[1]
→ Glargine (Basaglar[®] ^[1]/Lantus[®] ^[1]/Toujeo [®] ^[1,4])
- Ultra-long Acting ^[1]
- Works 6h ^[1] after injection
- Does not have a peak ^[3]
- Duration lasts about 36h or more ^[1]
- Example of Ultra-long Acting Insulins:
→ Glargine U-300 (Toujeo[®]) ^[1]
- Pre-mixed ^[1,3]/Mixed ^[4,5] Combination ^[2] insulins
- Comprise of a mixture of two types of insulin ^[3]/mixture of short and intermediate-acting insulins ^[2]/mixture of short and long-acting insulins ^[4]/mixture of rapid-acting or short-acting and intermediate-acting insulins ^[4,5]
- *[Mention at least 1 example of mixed/ combination insulins for Comprehensiveness]*
→ Mixtard [®] 30/70 ^[2,4]
→ Mixtard [®] 50/50 ^[4]
→ Humulin [®] 30/70 ^[2]
→ NovoMix [®] 30 ^[4]
→ Humalog [®] Mix 25 ^[4]
→ Humalog [®] Mix 50 ^[4]
→ Ryzodeg [®] 70/30 ^[4]

[1] American Diabetes Association. Insulin Basics. [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: <https://www.diabetes.org/healthy-living/medication-treatments/insulin-other-injectables/insulin-basics>

[2] HealthHub. Diabetes Treatment: Insulin. [Internet]. [updated 2021 Apr 19; cited 2021 Jul 23]. Available from: <https://www.healthhub.sg/a-z/diseases-and-conditions/575/diabetes-treatment-insulin>

[3] National Institute of Diabetes and Digestive and Kidney Diseases. Insulin, Medicines, & Other Diabetes Treatments. [Internet]. [updated 2016 Dec; cited 2021 Jul 11] Available from: <https://www.niddk.nih.gov/health-information/diabetes/overview/insulin-medicines-treatments>

[4] Better Health. Diabetes and Insulin. [Internet]. [updated 2019 Aug 7; cited 2021 Aug 11]. Available from: <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/diabetes-and-insulin#types-of-insulin>

[5] Diabetes UK. Insulin and Diabetes. [Internet]. [cited 2021 Jul 23]. Available from: <https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/treating-your-diabetes/insulin>

<p>35. What are the different ways to take insulin?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “insulin can be administered in which of the following ways”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 6 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Needles and syringe ^[1]/Syringe ^[2] - Insulin pen ^[1-3] - Insulin pump ^[1-3] - Injection port ^[1] - Jet injection ^[1] - Insulin inhaler ^[1] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Insulin, Medicines, & Other Diabetes Treatments. [Internet]. [updated 2016 Dec; cited 2021 Jul 11] Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/insulin-medicines-treatments</p> <p>[2] HealthHub. Diabetes Treatment: Insulin. [Internet]. [updated 2021 Apr 19; cited 2021 Jul 23]. Available from: https://www.healthhub.sg/a-z/diseases-and-conditions/575/diabetes-treatment-insulin</p> <p>[3] Diabetes UK. Insulin and Diabetes. [Internet]. [cited 2021 Jul 23]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/treating-your-diabetes/insulin</p>
<p>36. How to use an <u>insulin pen</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “Insulin injection pen”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 9 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <p><u>Preparation</u></p> <ul style="list-style-type: none"> - [3 points - mentions 4 - 5 preparation steps 2 points - mentions 2 - 3 preparation steps 1 point - mentions 1 preparation step 0 points - if it did not mention any preparation steps] → Wash and dry hands ^[1,2] → Remove the cap of the insulin pen ^[2] → If the insulin looks cloudy, roll the pen in your hands (Do not have to roll the pen if the insulin is clear. Do not shake the pen) ^[2] → Insert a new cartridge of insulin (When necessary for insulin pens that are not pre-filled with insulin) ^[4] → Attach a new needle to your pen and remove the caps of the pen needle ^[1,2] <p><u>Priming</u></p> <ul style="list-style-type: none"> - [3 points - mentions 4 - 5 priming steps 2 points - mentions 2 - 3 priming steps 1 point - mentions 1 priming step 0 points - if it did not mention any priming steps] → Select at least 2 units ^[1,2] → Hold the pen pointing upward ^[1,2] → Press the plunger to test the shot ^[1,2] → Check that a steady stream of insulin ^[1] comes out from the needle/at least 1 drop of insulin comes out from the needle ^[2]

	<p>→ If no insulin comes out, repeat the priming test until you see a steady stream coming out ^[1]/at least 1 drop of insulin coming out ^[2]</p> <p><u>Administering the insulin</u></p> <ul style="list-style-type: none"> - [3 points - mentions 7 - 9 steps 2 points - mentions 3 - 6 steps 1 point - mentions 1 - 2 steps 0 points - if it did not mention any steps] <p>→ Select your dose ^[1,2]</p> <p>→ Clean the intended injection area with an alcohol wipe ^[2]</p> <p>→ Gently pinch the skin before you inject ^[1] (If advised by the healthcare professional ^[1]/when necessary ^[1,4]/do not need to pinch the skin if a shorter needle is used ^[4]/very thin people may need to pinch the skin ^[4])</p> <p>→ Insert the pen needle at right angle to the skin and deliver the dose ^[2,3]</p> <p>→ Hold the needle in for 10 seconds before removing the needle ^[1-3]</p> <p>→ Apply pressure to the injected area to stop the bleeding ^[2]</p> <p>→ Throw the needle into a sharps disposal container ^[1-3] [<i>Accept: puncture proof container</i>]</p> <p>→ Put the pen cap back on ^[2]</p> <p>→ Do not reuse the needles ^[1,3,4]</p> <p>[1] Diabetes.co.uk. How to Inject Insulin. [Internet]. 2019 Jan 15 [cited 2021 Jul 11]. Available from: https://www.diabetes.co.uk/insulin/how-to-inject-insulin.html</p> <p>[2] Cleveland Clinic. Insulin Pen Injections. [Internet]. [updated 2018 Aug 8; cited 2021 Jul 31]. Available from: https://my.clevelandclinic.org/health/treatments/17923-insulin-pen-injections</p> <p>[3] National Diabetes Services Scheme. Insulin Fact Sheet. [Internet]. 2016 Jun [updated 2012 Nov 5; cited 2021 Jul 31]. Available from: https://www.ndss.com.au/about-diabetes/resources/find-a-resource/insulin-fact-sheet/</p> <p>[4] American Diabetes Association. Insulin Pens. [Internet]. c1995–2021 [cited 2021 Jul 31]. Available from: https://www.diabetes.org/healthy-living/devices-technology/insulin-pens</p>
<p>37. How to inject <u>insulin</u> with a syringe?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “Insulin injection”</p> <p>*Disclaimer required*</p>	<p>[<i>For Comprehensiveness: 9 points. Information in () is optional</i>] [<i>For Accuracy: check against everything written below. Information in () is compulsory</i>] [<i>For ‘/’, accept either</i>]</p> <p><u>Preparation</u></p> <ul style="list-style-type: none"> - [3 points - mentions 3 - 4 preparation steps 2 points - mentions 2 preparation steps 1 point - mentions 1 preparation step 0 points - if it did not mention any preparation steps] <p>→ Wash and dry hands ^[1-3]</p> <p>→ Roll the vial gently between your hands to mix the insulin ^[1-3] (to warm it to body temperature ^[2])</p> <p>→ Wipe the top of the vial with an alcohol swab ^[2,3]</p> <p>→ Remove the caps from the syringe ^[1-3]</p> <p><u>Drawing the dose</u></p> <ul style="list-style-type: none"> - [3 points - mentions 8 - 11 steps 2 points - mentions 4 - 7 steps 1 point - mentions 1 - 3 steps 0 points - if it did not mention any steps]

	<p>→ Pull the plunger back to draw air into the syringe ^[1-3]</p> <p>→ Draw up the same number of units of air as the number of insulin units needed ^[1-3]</p> <p>→ Position the insulin vial upright ^[1-3]</p> <p>→ Push the needle of the syringe into the vial and inject the air into the vial ^[1-3]</p> <p>→ With the needle still in the vial, hold the vial and needle upside down ^[1,3]</p> <p>→ Ensure the end of the syringe needle is surrounded by insulin and not air ^[1]</p> <p>→ Draw up the number of units of insulin needed ^[3]/slightly more than the number of units of insulin needed ^[1,2]</p> <p>→ Check the syringe for air bubbles ^[1-3]</p> <p>→ If there are bubbles, tap the syringe with your finger until the bubble moves to the top ^[1,2]</p> <p>→ Push the bubbles out with the plunger ^[1,2]</p> <p>→ Remove the syringe from the vial ^[1-3]</p> <p><u>Administering the insulin</u></p> <ul style="list-style-type: none"> - <i>[3 points - mentions 6 - 8 steps</i> <i>2 points - mentions 3 - 5 steps</i> <i>1 point - mentions 1 - 2 steps</i> <i>0 points - if it did not mention any steps]</i> <p>→ Clean the intended injection site with soap and water ^[2]/alcohol swab ^[3]</p> <p>→ Gently pinch the skin before you inject ^[2,3] (If advised by the healthcare professional/when necessary/do not need to pinch the skin if a shorter needle is used/very thin people may need to pinch the skin)</p> <p>→ Insert the needle at a right angle to the skin ^[1-3]</p> <p>→ With the needle fully in the skin, push down the plunger ^[1-3]</p> <p>→ Hold the needle in for 10 seconds ^[1]/a few seconds ^[2] after the dose is given (to ensure all the insulin is delivered) before removing the needle</p> <p>→ Apply pressure to the injected area to stop the bleeding ^[2]</p> <p>→ Insulin syringe should only be used once ^[1,3]</p> <p>→ Dispose the syringe into a sharps disposal container ^[1,2]</p> <p>[1] Diabetes.co.uk. Injecting Insulin with a Syringe [Internet]. 2019 Jan 15 [cited 2021 Jul 23]. Available from: https://www.diabetes.co.uk/insulin/injecting-insulin-with-a-syringe.html</p> <p>[2] HealthHub. Insulin Injection Technique. [Internet]. [cited 2021 Jul 31]. Available from: https://www.healthhub.sg/a-z/medications/630/Insulin-Injection-Technique</p> <p>[3] HealthXchange (SingHealth). Insulin Syringe Preparation: How to Mix Short- and Intermediate-Acting Insulin. [Internet]. c 2016 [cited 2023 Mar 23]. Available from: https://www.healthxchange.sg/diabetes/essential-guide-diabetes/insulin-syringe-preparation-how-mix-short-intermediate-acting-insulin</p>
<p>38. How to mix insulin?</p> <p>Question taken from: Google Trends</p>	<p><i>[For Comprehensiveness: 9 points]</i></p> <p><i>[For Accuracy: check against everything written below]</i></p> <p><i>[For ‘/’, accept either]</i></p> <p><u>Preparation</u>¹</p> <ul style="list-style-type: none"> - <i>[3 points - mentions 3 - 4 preparation steps</i> <i>2 points - mentions 2 preparation steps</i>

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- 1 point - mentions 1 preparation step*
- 0 points - if it did not mention any preparation steps]*
- Wash and dry hands ^[1,2]
- Roll the insulin vials gently between palms of hand to mix the insulin ^[1,2]
- Wipe the top of the insulin vials with an alcohol swab ^[1,2]
- Remove the caps from the syringe ^[1,2]

Injecting air into the insulin vials

- *[3 points - mentions 7 - 9 steps*
- 2 points - mentions 3 - 6 steps*
- 1 point - mentions 1 - 2 steps*
- 0 points - if it did not mention any steps]*
- Pull the plunger back to draw up air into the syringe ^[1,2]
- Draw up the same number of units of air as the number of cloudy insulin units needed ^[1,2]
- Position the cloudy insulin vial upright ^[1]
- Push the syringe needle into the cloudy insulin vial and inject the air ^[1,2]
- Do not draw out the cloudy insulin at this point ^[1]
- Take the empty syringe out of the vial ^[1,2]
- Using the same syringe, draw in air equal to the amount of clear insulin you need ^[1,2]
- Position the clear insulin vial upright ^[1]
- Push the syringe needle into the clear insulin vial and inject the air ^[1,2]

Drawing the dose

- *[3 points - mentions 9 - 12 steps*
- 2 points - mentions 4 - 8 steps*
- 1 point - mentions 1 - 3 steps*
- 0 points - if it did not mention any steps]*
- Without removing the syringe, turn the vial and syringe upside down ^[1,2]
- Draw up the required number of units of insulin ^[2]/slightly more than the required number of units of insulin ^[1]
- Check the syringe for air bubbles ^[1,2]
- If there are bubbles, tap the syringe with a finger until the bubble moves to the top ^[1]
- Push the bubbles out with the plunger ^[1]
- Remove the needle from the clear insulin vial ^[1,2]
- Position the cloudy insulin vial upside down ^[1,2]
- Insert the needle into the cloudy insulin vial ^[1,2]
- Do not push in the plunger as this would inject clear insulin into the cloudy insulin vial ^[1]
- Pull the plunger to add up the total amount of cloudy and clear insulin you need ^[1,2]
- To prevent air bubbles from forming, pull the plunger slowly ^[1]
- Remove the syringe from the vial ^[1,2]

[1] HealthHub. Insulin Injection Technique. [Internet]. [cited 2021 Jul 31]. Available from: <https://www.healthhub.sg/a-z/medications/630/Insulin-Injection-Technique>

	<p>[2] HealthXchange (SingHealth). Insulin Syringe Preparation: How to Mix Short- and Intermediate-Acting Insulin. [Internet]. c 2016 [cited 2023 Mar 23]. Available from: https://www.healthxchange.sg/diabetes/essential-guide-diabetes/insulin-syringe-preparation-how-mix-short-intermediate-acting-insulin</p>
<p>39. What are the <u>insulin injection sites</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “insulin injection sites”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 7 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Belly ^[1]/Abdomen ^[2-4] (2 inches away from the belly button ^[3]) - Thighs ^[2,3]/Front thighs ^[1,4]/Side of the thighs ^[4] - Arm ^[1,2]/Upper arm ^[3]/Outer arm ^[4] - Buttocks ^[1-4] - Fastest absorption is from the abdomen ^[2,3]/belly ^[1] - Followed by the arms, then the thigh and lastly the buttocks ^[2,3] - It is important to rotate the injection site ^[1-4] (to avoid lumpy skin ^[1]/stiff skin ^[1]/fatty lumps ^[2]/hollow areas ^[2]/hardened areas ^[4]/lipohypertrophy ^[3]/lipoatrophy ^[3]) <p>[1] Diabetes.co.uk. How to Inject Insulin. [Internet]. 2019 Jan 15 [cited 2021 Jul 23]. Available from: https://www.diabetes.co.uk/insulin/how-to-inject-insulin.html</p> <p>[2] HealthHub. Insulin Injection Technique. [Internet]. [cited 2021 Jul 31]. Available from: https://www.healthhub.sg/a-z/medications/630/Insulin-Injection-Technique</p> <p>[3] American Diabetes Association. Insulin Administration. [Internet]. 2002 Jan [cited 2021 Jul 24]. Available from: https://care.diabetesjournals.org/content/25/suppl_1/s112</p> <p>[4] Cleveland Clinic. Insulin Pen Injections. [Internet]. [updated 2018 Aug 8; cited 2021 Jul 31]. Available from: https://my.clevelandclinic.org/health/treatments/17923-insulin-pen-injections</p>
<p>40. What are the side effects of <u>insulin</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “insulin side effects”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 4 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Low blood glucose/ hypoglycemia ^[1-3] - Weight gain ^[1-3] - Redness ^[2]/itching ^[1,2]/rashes ^[1]/swelling ^[2] at the injection site - Fatty lumps ^[2]/hollow areas ^[2]/lumpy skin ^[4]/stiff skin ^[4]/hardened areas ^[6] /lipohypertrophy ^[5]/lipoatrophy ^[5] at injection sites <i>[Accept: lipodystrophy]</i> <p>[1] Diabetes UK. Insulin and Diabetes. [Internet]. [cited 2021 Jul 24]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/treating-your-diabetes/insulin</p> <p>[2] HealthHub. Insulin Injection Technique. [Internet]. [cited 2021 Jul 31]. Available from: https://www.healthhub.sg/a-z/medications/630/Insulin-Injection-Technique</p> <p>[3] National Diabetes Services Scheme. Benefits and Side-effects of Insulin. [Internet]. [cited 2021 Jul 30]. Available from: https://www.ndss.com.au/about-diabetes/resources/find-a-resource/starting-insulin-booklet/benefits-and-side-effects-of-insulin/</p> <p>[4] Diabetes.co.uk. How to Inject Insulin. [Internet]. 2019 Jan 15 [cited 2021 Jul 23]. Available from: https://www.diabetes.co.uk/insulin/how-to-inject-insulin.html</p> <p>[5] American Diabetes Association. Insulin Administration. [Internet]. 2002 Jan [cited 2021 Jul 24]. Available from: https://care.diabetesjournals.org/content/25/suppl_1/s112</p>

	[6] Cleveland Clinic. Insulin Pen Injections. [Internet]. [updated 2018 Aug 8; cited 2021 Jul 31]. Available from: https://my.clevelandclinic.org/health/treatments/17923-insulin-pen-injections
<p>41. When should I inject <u>insulin</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “when insulin should be given”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 4 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <p><u>Rapid-Acting Insulin/ Any Rapid-Acting Insulin that is taken alongside Intermediate-Acting or Long-Acting insulin</u></p> <ul style="list-style-type: none"> - 15 ^[1]/30 ^[2,3] mins before a meal - Immediately after a meal ^[1] <p><u>Regular/ Short-Acting Insulin</u></p> <ul style="list-style-type: none"> - 30 mins before a meal ^[1] <p><u>Intermediate-Acting or Long-Acting insulin:</u></p> <ul style="list-style-type: none"> - Once or twice a day ^[4] <p>[1] American Diabetes Association. Insulin Administration. [Internet]. 2002 Jan [cited 2021 Jul 24]. Available from: https://care.diabetesjournals.org/content/25/suppl_1/s112</p> <p>[2] HealthHub. Diabetes Treatment: Insulin [updated 2021 Apr 19; cited 2021 Jul 11]. Available from: https://www.healthhub.sg/a-z/diseases-and-conditions/575/diabetes-treatment-insulin</p> <p>[3] American Diabetes Association. Insulin Routines. [Internet]. c1995–2021 [cited 2021 Jul 31]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/insulin-other-injectables/insulin-routines</p> <p>[4] Centers for Disease Control and Prevention. 4 Ways to Take Insulin. [Internet]. [updated 2021 Mar 25; cited 2021 Jul 31]. Available from: https://www.cdc.gov/diabetes/basics/type-1-4-ways-to-take-insulin.html</p>
<p>42. What oral medicines treat <u>diabetes</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes oral medication”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 10 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i> <i>[The DVA response should not include medications that are not given orally]</i></p> <ul style="list-style-type: none"> - Biguanides (Metformin) ^[1–6] - Sodium-Glucose Co-Transporter 2 inhibitors (Canagliflozin/Empagliflozin/ Dapagliflozin/Ertugliflozin) ^[2–6] - Glucagon-Like Peptide-1 receptor agonists/Incretin Mimetics (Semaglutide) ^[2,4–6] - Sulfonylureas (Glipizide/Glimepiride/Gliclazide/Glibenclamide/Glyburide/Tolbutamide/Tolazamide/Chlorpropamide) ^[2–6] - Thiazolidinediones (Pioglitazone/ Rosiglitazone) ^[2–6] - Dipeptidyl Peptidase - 4 inhibitors (Linagliptin/Sitagliptin/Saxagliptin/Alogliptin/Vildagliptin) ^[2–6] - Dopamine Agonist/Dopamine-2 Agonist (Bromocriptine) ^[3,4] - Alpha-Glucosidase inhibitors (Acarbose/Miglitol) ^[3–6] - Meglitinides/Prandial Glucose Regulator (Nateglinide/Repaglinide) ^[3–5] - Bile Acid Sequestrants (Cholestyramine/Colesevelam) ^[3,4] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Insulin, Medicines, & Other Diabetes Treatments. [Internet]. [updated 2016 Dec; cited 2021 Jul 11] Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/insulin-medicines-treatments</p>

	<p>[2] Diabetes Care. 9. Pharmacological Approaches to Glycemic Treatment: Standards of Medical Care in Diabetes—2021. [Internet] 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S111</p> <p>[3] American Diabetes Association. What Are My Options? [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/oral-medication/what-are-my-options</p> <p>[4] U.S. Food and Drug Administration. Diabetes Medicines. [Internet]. 2018. [cited 2021 Jul 24]. Available from: https://www.fda.gov/media/119148/download</p> <p>[5] Diabetes UK. Tablets and Medication. [Internet]. [cited 2021 Jul 24]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/treating-your-diabetes/tablets-and-medication</p> <p>[6] Diabetes Australia. Medicines for Your Diabetes. [Internet]. c2021 [cited 2021 Jul 31]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/medicines/</p>
<p>43. How does <u>metformin</u> work?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “metformin action”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 3 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either. Accept either glucose/sugar]</i></p> <ul style="list-style-type: none"> - Reduces the amount of glucose which the liver produces ^[1–3] - Reduces the absorption of glucose from the intestine ^[1] - Make the body cells more sensitive to insulin/ increase glucose uptake and use by body cells ^[1–3] <p>[1] UpToDate. Metformin: Drug Information. [Intranet]. c2021 [cited 2021 Jul 11]. Available from: https://www.uptodate.com/contents/metformin-drug-information?search=metformin&source=search_result&selectedTitle=1~148&usage_type=panel&kp_tab=drug_general&display_rank=1#F193820</p> <p>[2] The National Health Service. Metformin. [Internet]. [updated 2019 Feb 8; cited 2021 Jul 11]. Available from: https://www.nhs.uk/medicines/metformin/</p> <p>[3] American Diabetes Association. What Are My Options? [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/oral-medication/what-are-my-options</p>
<p>44. What are the side effects of <u>metformin</u>?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “side effects of metformin”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 15 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><u>Commonly mentioned side effects</u></p> <ul style="list-style-type: none"> - Diarrhea ^[1–5] - Nausea ^[1,2,4,5] - Vomiting ^[1,2,4,5] - Indigestion ^[1,4] - Flatulence/Gas ^[1,4] - Stomachache/Abdominal pain ^[2,3,5] - Loss of appetite ^[2,5] - Metallic taste in the mouth ^[2,5] - Yellow skin or whites of eye turning yellow ^[2] - Bloating ^[3] - Headache ^[4] - Feeling weak ^[4] - Skin reactions/Rash/Itching/Flushing of skin ^[5] <p><u>Significant rare side effects</u></p> <ul style="list-style-type: none"> - Lactic acidosis/High levels of lactic acid in the blood ^[1,3,5] - Vitamin B12 deficiency ^[1,3,5] (during long term use)

	<p>Others: <i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i> → Chest discomfort/flushing/ palpitations ^[1] → Sweating ^[1] → Nail disease ^[1] → Low blood glucose/hypoglycemia ^[1] → Abnormal stools ^[1] → Chills, dizziness ^[1] → Flu-like symptoms ^[1] → Upper respiratory tract infections ^[1] → Worsening symptoms of neuropathy ^[3]</p> <p>[1] UpToDate. Metformin: Drug Information. [Intranet]. c2021 [cited 2021 Jul 11]. Available from: https://www.uptodate.com/contents/metformin-drug-information?search=metformin&source=search_result&selectedTitle=1~148&usage_type=panel&kp_tab=drug_general&display_rank=1#F193820</p> <p>[2] The National Health Service. Metformin. [Internet]. [updated 2019 Feb 8; cited 2021 Jul 11]. Available from: https://www.nhs.uk/medicines/metformin/</p> <p>[3] Diabetes Care. 9. Pharmacological Approaches to Glycemic Treatment: Standards of Medical Care in Diabetes—2021. [Internet] 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S111</p> <p>[4] U.S. Food and Drug Administration. Diabetes Medicines. [Internet]. 2018. [cited 2021 Jul 24]. Available from: https://www.fda.gov/media/119148/download</p> <p>[5] Diabetes.co.uk. Metformin Side Effects. [Internet]. 2019 Jan 15 [cited 2021 Jul 31]. Available from: https://www.diabetes.co.uk/diabetes-medication/metformin-side-effects.html</p>
<p>45. Should I take <u>metformin</u> with or without food?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “metformin with or without food”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 2 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Best to take with food ^[1–3]/after food ^[3] - To reduce side effects of stomach discomfort ^[3] <p>[1] The National Health Service. Metformin. [Internet]. [updated 2019 Feb 8; cited 2021 Jul 11]. Available from: https://www.nhs.uk/medicines/metformin/</p> <p>[2] UpToDate. Metformin: Drug Information. [Intranet]. c2021 [cited 2021 Jul 11]. Available from: https://www.uptodate.com/contents/metformin-drug-information?search=metformin&source=search_result&selectedTitle=1~148&usage_type=panel&kp_tab=drug_general&display_rank=1#F193820</p> <p>[3] HealthHub. Metformin. [Internet]. [updated 2019 May; cited 2021 Jul 11]. Available from: https://www.healthhub.sg/a-z/medications/185/Metformin</p>
<p>46. Can <u>metformin</u> cause</p>	<p><i>[For Comprehensiveness: 2 points]</i> <i>[For Accuracy: check against everything written below]</i></p>

<p><u>hypoglycemia?</u></p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<ul style="list-style-type: none"> - No, it does not cause hypoglycemia on its own ^[1,2] [<i>Accept: Risk for hypoglycemia is low</i>] - However, hypoglycemia can occur if Metformin is combined with: [<i>Mention at least 1 example for Comprehensiveness</i>] <ul style="list-style-type: none"> → Poor diet ^[1] → Fasting ^[1,2] → Skipping a meal ^[1] → Strenuous exercise ^[1,2] → Alcohol intake ^[1] → Other diabetes medications/Insulin ^[1]/Sulfonylureas ^[1] → Kidney or liver problems ^[1] → Hormone disorders/Hypothyroidism ^[1] <p>[1] The National Health Service. Metformin. [Internet]. [updated 2019 Feb 8; cited 2021 Jul 11]. Available from: https://www.nhs.uk/medicines/metformin/</p> <p>[2] American Diabetes Association. Metformin, Sulfonylureas, or Other Antidiabetes Drugs and the Risk of Lactic Acidosis or Hypoglycemia: A Nested Case-control Analysis. [Internet]. 2008 Nov [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/31/11/2086</p>
<p>47. Can <u>metformin</u> cause weight gain?</p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<p>[<i>For Comprehensiveness: 1 point. Information in () is optional</i>] [<i>For Accuracy: check against everything written below. Information in () is compulsory</i>]</p> <ul style="list-style-type: none"> - No ^[1] (but there is a potential for modest weight loss ^[2]) <p>[1] The National Health Service. Metformin. [Internet]. [updated 2019 Feb 8; cited 2021 Jul 11]. Available from: https://www.nhs.uk/medicines/metformin/</p> <p>[2] Diabetes Care. 9. Pharmacological Approaches to Glycemic Treatment: Standards of Medical Care in Diabetes—2021. [Internet] 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S111</p>
<p>48. What are <u>SGLT-2 Inhibitors</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Other related questions: Google Trends: “what is Empagliflozin”</p> <p>AnswerThePublic: “what is</p>	<p>[<i>For Comprehensiveness: 7 points. Information in () is optional</i>] [<i>For Accuracy: check against everything written below</i>]. Information in () is compulsory] [<i>For ‘/’, accept either</i>]</p> <ul style="list-style-type: none"> - Sodium-Glucose Co-Transporter 2 Inhibitors ^[1,2]/Gliflozins ^[2] - A group/class of oral medications ^[1,2] - Approved for type 2 diabetes ^[2,3] - [<i>Mention at least 1 example of SGLT-2 Inhibitors for Comprehensiveness</i>] <ul style="list-style-type: none"> → Canagliflozin (Invokana® ^[1,4]/Vokanamet® ^[2]) → Dapagliflozin (Forxiga® ^[1,4]/Qtern® ^[4]/Xigduo XR® ^[2,4]) → Empagliflozin (Jardiance® ^[1,2,4]/Jardimet® ^[4]/Glyxambi® ^[4]/Synjardy® ^[2]) → Ertugliflozin (Steglatro® ^[2]) - SGLT-2 Inhibitors can be used alone or in-combination with other diabetes medications ^[3] <p><u>Mechanism of action:</u></p> <ul style="list-style-type: none"> - Cause excess glucose to be eliminated into the urine ^[1,3]/Reduce the amount of glucose that is reabsorbed into the body

<p>canagliflozin”</p> <p><i>*Disclaimer required*</i></p>	<p>- Lowering blood glucose level ^[2,3]</p> <p>[1] American Diabetes Association. What Are My Options? [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/oral-medication/what-are-my-options</p> <p>[2] Diabetes UK. SGLT2 Inhibitors. [Internet]. [cited 2021 Jul 24]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/treating-your-diabetes/tablets-and-medication/sglt2-inhibitors</p> <p>[3] U.S. Food and Drug Administration. Sodium-Glucose Cotransporter-2 (SGLT2) Inhibitors. [Internet]. [updated 2018 Aug 8; cited 2021 Jul 11]. Available from: https://www.fda.gov/drugs/postmarket-drug-safety-information-patients-and-providers/sodium-glucose-cotransporter-2-sglt2-inhibitors</p> <p>[4] Australian Government Department of Health and Aged Care. Therapeutic Goods Administration. Sodium Glucose Co-Transporter 2 Inhibitors. [Internet]. 2018 Jul 18 [cited 2021 Jul 31]. Available from: https://www.tga.gov.au/alert/sodium-glucose-co-transporter-2-inhibitors</p>
<p>49. What are the side effects of <u>SGLT-2 Inhibitors</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: SGLT2 Inhibitors side effects</p> <p>Other related questions: Google Trends & AnswerThePublic: “Canagliflozin/ Empagliflozin/ Dapagliflozin side effects”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 5 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either]</i></p> <p><u>Commonly mentioned side effects</u></p> <ul style="list-style-type: none"> - Urinary Tract Infections ^[1–6] - Male or Female genital yeast infections ^[1,3–6] - Low blood glucose/Hypoglycemia ^[1–6] - Low blood pressure/Hypotension (due to dehydration) ^[1,3–6] <p><u>Significant rare side effects</u></p> <ul style="list-style-type: none"> - Diabetic ketoacidosis/High levels of ketones in the blood ^[1–6] <p><u>Others:</u></p> <p><i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i></p> <ul style="list-style-type: none"> → Increased thirst ^[3,5] → Increased urination ^[3–6] → Abdominal pain ^[3] → Constipation ^[3] → Skin photosensitivity ^[3]/skin rash ^[4,5] → Limb injury/toe/foot/lower limb amputations ^[3] → Anaphylaxis ^[3,4]/Hypersensitivity ^[5] → Acute kidney injury ^[3–5] → Nausea ^[4,5] → Back/limb pain ^[4,6] → Asthma ^[5] → Headache ^[6] → Weight loss ^[6] <p>[1] SingHealth. Empagliflozin. [Internet]. c2016 [updated 2019 May 8; cited 2021 Jul 11]. Available from: https://www.singhealth.com.sg/patient-care/medicine/empagliflozin</p> <p>[2] Diabetes.co.uk. SGLT2 Inhibitors (Gliflozins). [Internet]. 2019 Jan 15 [cited 2021 Jul 24]. Available from: https://www.diabetes.co.uk/diabetes-medication/sglt2-inhibitors.html</p> <p>[3] UpToDate. Canagliflozin: Drug Information. [Internet]. [cited 2021 Jul 31]. Available from:</p>

	<p>https://www.uptodate.com/contents/canagliflozin-drug-information?search=sglt2%20inhibitors&selectedTitle=1~94&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F16576151</p> <p>[4] UpToDate. Dapagliflozin: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/dapagliflozin-drug-information?search=sglt2%20inhibitors&selectedTitle=1~94&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F23698618</p> <p>[5] UpToDate. Empagliflozin: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/empagliflozin-drug-information?search=sglt2%20inhibitors&selectedTitle=1~94&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F54836149</p> <p>[6] UpToDate. Ertugliflozin: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/ertugliflozin-drug-information?search=sglt2%20inhibitors&selectedTitle=1~94&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F50889306</p>
<p>50. Should I take <u>SGLT-2 Inhibitors</u> with or without food?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “empagliflozin with or without food” “canagliflozin with food”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 2 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <ul style="list-style-type: none"> - Taken with or without food ^[1] - However, it is recommended to take Canagliflozin at least 30 mins before the first meal of the day ^[2] (as it has the potential to reduce spike in glucose after food because it delays glucose absorption from the intestine ^[2]) <p>[1] Diabetes.co.uk. SGLT2 Inhibitors (Gliflozins). [Internet]. 2019 Jan 15 [cited 2021 Jul 24]. Available from: https://www.diabetes.co.uk/diabetes-medication/sglt2-inhibitors.html</p> <p>[2] UpToDate. Canagliflozin: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/canagliflozin-drug-information?search=sglt2%20inhibitors&selectedTitle=1~94&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F16576151</p>
<p>51. Are <u>SGLT-2 inhibitors</u> recommended for people with heart failure?</p> <p>Question taken from:</p>	<p><i>[For Comprehensiveness: 2 points]</i> <i>[For Accuracy: check against everything written below]</i></p> <ul style="list-style-type: none"> - Recommended for people with heart failure ^[1-3] - Recommended for people with high risk of heart failure ^[3] <p>[1] Diabetes Care. 9. Pharmacological Approaches to Glycemic Treatment: Standards of Medical Care in Diabetes—2021. [Internet] 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S111</p> <p>[2] Diabetes Care. 10. Cardiovascular Disease and Risk Management: Standards of Medical Care in Diabetes—2021. [Internet] 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S125.figures-only</p>

<p>AnswerThePublic</p> <p>Original phrasing: “sGLT2 inhibitors for heart failure”</p> <p><i>*Disclaimer required*</i></p>	<p>[3] European Heart Journal. 2019 ESC Guidelines on Diabetes, Pre-diabetes, and Cardiovascular Diseases Developed in Collaboration with the EASD: The Task Force for Diabetes, Pre-diabetes, and Cardiovascular Diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD). [Internet]. 2020 Jan 7 [cited 2021 Jul 24]. Available from: https://academic.oup.com/eurheartj/article/41/2/255/5556890</p>
<p>52. What are <u>GLP-1 Receptor Agonists</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “what are glp-1 receptor agonists”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 10 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Glucagon-Like-Peptide 1 Receptor Agonist ^[1-4]/Glucagon-Like-Peptide 1 Receptor Analogues ^[2]/Incretin mimetics ^[2] - A class of diabetes medication ^[2] - Approved for type 2 diabetes ^[1] - Normally given as an injection ^[1,4] - <i>[Mention at least 1 example of GLP-1 Receptor Agonists for Comprehensiveness]</i> <ul style="list-style-type: none"> → Liraglutide (Saxenda® ^[3]/Victoza®^[1-3]) → Exenatide (Bydureon® ^[1-4]/Byetta®^[1-4]) → Semaglutide (Ozempic® ^[1-4]/Rybelsus® ^[3]/Wegovy® ^[3]) → Dulaglutide (Trulicity® ^[1-3]) → Lixisenatide (Adlyxin® ^[1,3]/Lyxumia® ^[2]) → Albiglutide (Tanzeum® ^[1,3]) <p><u>Mechanism of action</u></p> <ul style="list-style-type: none"> - Work by increasing the level ^[2,4]/copying the function ^[5] of GLP-1 hormones/incretin hormones in the body - These hormones help the body produce insulin to lower the increased blood glucose after a meal/when needed ^[2] - Reduce the amount of glucose produced by the liver ^[2] - Slows down glucose absorption into the blood by reducing the speed in which the stomach empties the food ^[5] - Lowering blood glucose level ^[4,5] <p>[1] U.S. Food and Drug Administration. Diabetes Medicines. [Internet]. 2018. [cited 2021 Jul 24]. Available from: https://www.fda.gov/media/119148/download</p> <p>[2] Diabetes UK. GLP-1 Analogues. [Internet]. [cited 2021 Jul 11]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/treating-your-diabetes/tablets-and-medication/incretin-mimetics</p> <p>[3] UpToDate. Glucagon-like Peptide-1 Receptor Agonists (GLP-1 Agonists). [Intranet]. [cited 2021 Jul 11]. Available from: https://www.uptodate-com.libproxy1.nus.edu.sg/contents/search?search=glp1%20receptor%20agonist&sp=0&searchType=PLAIN_TEXT&source</p>

	<p>e=USER_INPUT&searchControl=TOP_PULLDOWN&searchOffset=1&autoComplete=false&language=en&max=10&index=&autoCompleteTerm=</p> <p>[4] Diabetes Australia. Medicines for Your Diabetes. [Internet]. c2021 [cited 2021 Jul 31]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/medicines/</p>
<p>53. What are the side effects of <u>GLP-1 Receptor Agonist</u>?</p> <p>Question taken from: AnswerThePublic</p> <p>Original Phrasing: “glp-1 receptor agonist side effects”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 14 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <p><u>Commonly mentioned side effects</u></p> <ul style="list-style-type: none"> - Nausea ^[1-6] - Diarrhea ^[1-6] - Constipation ^[1,2,5,6] - Vomiting ^[1,2,4,6] - Loss of appetite ^[1]/Decrease ^[2,5] in appetite - Low blood glucose/Hypoglycemia ^[3,5,6] - Headaches ^[1,5] - Dizziness ^[1,5] - Increased sweating ^[1] - Indigestion ^[1] - Stomach pain ^[2,4,6] <p>- <i>[Mention at least 1 example of injection site side effects for Comprehensiveness] ^[2,3,5,6]</i></p> <ul style="list-style-type: none"> → Mild bruising → Pain → Irritation → Itching → Rash at the injection site <p><u>Significant rare side effects</u></p> <ul style="list-style-type: none"> - Pancreatitis/ inflammation of the pancreas ^[2-6] - <i>[Mention at least 1 symptom of pancreatitis]</i> → Very bad pain in stomach, abdomen or back ^[2] → Nausea and vomiting (that does not go away) ^[2] → Fever ^[2] <p><u>Others:</u></p> <p><i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i></p> <ul style="list-style-type: none"> → Atrial fibrillation ^[3] → Cough ^[3,6] → Upper respiratory tract infection ^[3] → Joint/ back pain ^[3] → Gastroesophageal reflux ^[3] → Influenza infection ^[3] → Urinary tract infection ^[6] → Pneumonia ^[3] → Acute kidney injury ^[3-6] → Fatigue ^[4,6] → Fast heart beat ^[4,6]

	<p>→ Diabetic retinopathy ^[4] → Gallbladder disease ^[4-6] → Hypersensitivity ^[4-6] → Drowsiness ^[5] → Medullary thyroid carcinoma ^[5,6]</p> <p>[1] Diabetes.co.uk. Incretin Mimetics (GLP-1 Agonists). [Internet]. 2019 Jan 15 [cited 2021 Jul 24]. Available from: https://www.diabetes.co.uk/diabetes-medication/incretin-mimetics.html</p> <p>[2] SingHealth. Liraglutide (Victoza®). [Internet]. [updated 2019 May 31; cited 2021 Jul 11]. Available from: https://www.singhealth.com.sg/patient-care/medicine/liraglutide</p> <p>[3] UpToDate. Albiglutide (United States: Not Available): Drug Information. [Intranet]. [cited 2021 Jul 11]. Available from: https://www.uptodate-com.libproxy1.nus.edu.sg/contents/albiglutide-united-states-not-available-drug-information?search=glp1%20receptor%20agonist&selectedTitle=1~99&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F24656269</p> <p>[4] UpToDate. Dulaglutide: Drug Information. [Intranet]. [cited 2021 Jul 11]. Available from: https://www.uptodate-com.libproxy1.nus.edu.sg/contents/dulaglutide-drug-information?search=glp1%20receptor%20agonist&selectedTitle=1~99&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F55634681</p> <p>[5] UpToDate. Exenatide: Drug Information. [Intranet]. [cited 2021 Jul 11]. Available from: https://www.uptodate-com.libproxy1.nus.edu.sg/contents/exenatide-drug-information?search=glp1%20receptor%20agonist&selectedTitle=1~99&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F595844</p> <p>[6] UpToDate. Liraglutide: Drug Information. [Intranet]. [cited 2021 Jul 11]. Available from: https://www.uptodate-com.libproxy1.nus.edu.sg/contents/liraglutide-drug-information?search=glp1%20receptor%20agonist&selectedTitle=1~99&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F54814735</p>
<p>54. What are <u>sulfonylureas</u> ?</p> <p>Question taken from: Google Trends</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 6 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - A class of oral medication ^[1] - Approved for type 2 diabetes ^[1] - <i>[Mention at least 1 example of sulfonylureas]</i> <ul style="list-style-type: none"> → Chlorpropamide (Apo-chlorpropamide® ^[2]/Diabinese® ^[2,3]) → Tolazamide ^[3] → Tolbutamide ^[1] → Glipizide (Glibenese® ^[1]/Glucotrol® ^[2,3]/Minodiab® ^[2]/Melizide® ^[4]/Minidiab® ^[4]) → Glimepiride (Amaryl® ^[1-4]/Dimirel® ^[4]/Aylide® ^[4]/Diapride® ^[4]/Gilmepride Sandoz® ^[4]) → Gliclazide (Diamicon® ^[1]/Glycade® ^[4]/Mellihexal® ^[4]/Nidem® ^[4]/Genrx Gliclazide® ^[4]) → Glyburide/Glibenclamide (Micronase® ^[2]/Glynase® ^[1,3]/Diabeta® ^[2,3]/Daonil® ^[1]/Glimel® ^[4]) - Sulfonylureas can be used alone or in-combination with other diabetes medication ^[1,5]

	<p>Mechanism of action:</p> <ul style="list-style-type: none"> - Stimulates insulin secretion from the pancreas ^[1-6] - Lower the blood glucose level ^[1] <p>[1] Diabetes.co.uk. Sulphonylureas. [Internet]. 2019 Jan 15 [cited 2021 Jul 24]. Available from: https://www.diabetes.co.uk/diabetes-medication/sulphonylureas.html</p> <p>[2] American Diabetes Association. What Are My Options? [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/oral-medication/what-are-my-options</p> <p>[3] U.S. Food and Drug Administration. Diabetes Medicines. [Internet]. 2018. [cited 2021 Jul 24]. Available from: https://www.fda.gov/media/119148/download</p> <p>[4] Diabetes Australia. Medicines for Your Diabetes. [Internet]. c2021 [cited 2021 Jul 31]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/medicines/</p> <p>[5] UpToDate. Glipizide: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/glipizide-drug-information?search=sulfonylureas&selectedTitle=1~137&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F176289</p> <p>[6] HealthHub. Diabetes Medications. [Internet]. [cited 2021 Aug 12]. Available from: https://www.healthhub.sg/a-z/diseases-and-conditions/576/diabetes-treatment-capsules--tablets</p>
<p>55. What are the side effects of <u>sulfonylureas</u> ?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “sulfonylurea side effects”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 7 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <p>Commonly mentioned side effects</p> <ul style="list-style-type: none"> - Low blood glucose/ Hypoglycemia ^[1-4] - Dizziness ^[2-4] - Headache ^[2-4] - Skin rashes ^[2,4,5] - Weight gain ^[3,5] - Jaundice ^[4,5] - Stomach upset ^[5] <p>Others: <i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i></p> <ul style="list-style-type: none"> → Fainting ^[2] → Nervousness/Anxiety/Depression ^[2] → Insomnia ^[2] → Drowsiness ^[2] → Abdominal pain ^[2] → Tremor ^[2] → Joint/muscle pain ^[2] → Leg cramps ^[2] → Blurred vision ^[2] → Rhinitis ^[2] → Nausea ^[4] → Loss of appetite ^[4] → Diarrhea ^[4] → Hunger ^[4] → Vomiting ^[4] → Skin photosensitivity ^[4]

	<p>[1] Diabetes.co.uk. Sulphonylureas. [Internet]. 2019 Jan 15 [cited 2021 Jul 24]. Available from: https://www.diabetes.co.uk/diabetes-medication/sulphonylureas.html</p> <p>[2] UpToDate. Glipizide: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/glipizide-drug-information?search=sulfonylureas&selectedTitle=1~137&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F176293</p> <p>[3] U.S. Food and Drug Administration. Diabetes Medicines. [Internet]. 2018. [cited 2021 Jul 24]. Available from: https://www.fda.gov/media/119148/download</p> <p>[4] UpToDate. Chlorpropamide: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/chlorpropamide-drug-information?search=sulfonylureas&selectedTitle=1~137&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F150581</p> <p>[5] Diabetes Australia. Medicines for Your Diabetes. [Internet]. c2021 [cited 2021 Jul 31]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/medicines/</p>
<p>56. Should I take sulphonylureas with food?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “Sulphonylurea with food”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 2 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Can be taken shortly before food ^[1-3]/30 mins before food ^[4] - Can be taken with food ^[1] <p>[1] Diabetes.co.uk. Sulphonylureas. [Internet]. 2019 Jan 15 [cited 2021 Jul 24]. Available from: https://www.diabetes.co.uk/diabetes-medication/sulphonylureas.html</p> <p>[2] HealthHub. Diabetes Medications. [Internet]. [cited 2021 Aug 12]. Available from: https://www.healthhub.sg/a-z/diseases-and-conditions/576/diabetes-treatment-capsules--tablets</p> <p>[3] Diabetes Australia. Medicines for Your Diabetes. [Internet]. c2021 [cited 2021 Jul 31]. Available from: https://www.diabetesaustralia.com.au/managing-diabetes/medicines/</p> <p>[4] UpToDate. Glipizide: Drug Information. [Intranet]. [cited 2021 Jul 31]. Available from: https://www.uptodate.com/contents/glipizide-drug-information?search=sulfonylureas&selectedTitle=1~137&usage_type=panel&display_rank=1&kp_tab=drug_general&source=search_result#F176293</p>
Diabetes Complications	
<p>57. What are the complications that people with diabetes develop?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes</p>	<p><i>[For Comprehensiveness: 6 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <p><u>Macrovascular complications involving the large blood vessels</u></p> <ul style="list-style-type: none"> - <i>[Mention at least 1 example of heart complications for Comprehensiveness]</i> <ul style="list-style-type: none"> → Cardiovascular disease ^[1] → Heart disease ^[2,3] → Heart attack ^[1-5] → Atherosclerosis ^[1,5] → Heart failure ^[1] → Arrhythmia ^[1] - Stroke ^[1-5] - Foot problems/amputations ^[1-7]

<p>complication”</p> <p><i>*Disclaimer required*</i></p>	<p><u>Microvascular complications involving the small blood vessels</u></p> <ul style="list-style-type: none"> - Kidney problems/Nephropathy/Kidney failure/Diabetic kidney disease ^[1-7] - Eye problems/Retinopathy/Glaucoma/Cataract/ Blindness ^[1,2,4-7] - Neuropathy/Nerve damage ^[1-4,6,7] <p><u>Other complications:</u></p> <p><i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i></p> <ul style="list-style-type: none"> - Diabetic ketoacidosis ^[1,4] - Hypoglycemia ^[2,4] - Hyperglycemia ^[4] - Hyperosmolar hyperglycemic state/Very high blood glucose levels with dehydration ^[4] - Dental problems/Gum diseases ^[2-5] - Skin complications ^[1,5]/Dry skin ^[5] - Sexual and bladder problems ^[2,4,6] - Gastroparesis/Delayed gastric emptying ^[6] - High blood pressure ^[1] - Mental health ^[5]/Depression ^[6]/Anxiety/Distress ^[2-4] - Certain kinds of cancer ^[2,4] - Dementia/Alzheimer’s disease ^[2] - Hearing impairment ^[6] <p>[1] American Diabetes Association. Complications. [Internet]. c1995–2021 [cited 2021 Jul 21]. Available from: https://www.diabetes.org/diabetes/complications</p> <p>[2] National Institute of Diabetes and Digestive and Kidney Diseases. Preventing Diabetes Problems [Internet]. [cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems</p> <p>[3] Centers for Disease Control and Prevention. Put the Brakes on Diabetes Complications. [Internet]. [updated 2019 Oct 21; cited 2021 Jul 21]. Available from: https://www.cdc.gov/diabetes/library/features/prevent-complications.html</p> <p>[4] Diabetes UK. Complications of Diabetes. [Internet]. [cited 2021 Jul 21]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications</p> <p>[5] National Diabetes Services Scheme. Diabetes-Related Complications Fact Sheet. [Internet]. 2016 Jun [updated 2021 Mar 3; cited 2021 Jul 22]. Available from: https://www.ndss.com.au/about-diabetes/resources/find-a-resource/diabetes-related-complications-fact-sheet/</p> <p>[6] Diabetes Care. 11. Microvascular Complications and Foot Care: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 14]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S151</p> <p>[7] International Diabetes Federation. Recommendations for Managing Type 2 Diabetes in Primary Care. [Internet]. 2017 [cited 2021 Aug 1]. Available from: https://www.idf.org/our-activities/care-prevention/type-2-diabetes.html</p> <p>[8] Centers for Disease Control and Prevention. Diabetes and Hearing Loss. [Internet]. [updated 2021 Jul 22; cited 2021 Aug 13]. Available from: https://www.cdc.gov/diabetes/managing/diabetes-hearing-loss.html</p>
<p>58. How does diabetes affect the feet?</p> <p>Question taken from: AnswerThePublic</p>	<p><i>[For Comprehensiveness: 6 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - It can cause nerve damage ^[1-3] - Symptoms due to nerve damage includes: <ul style="list-style-type: none"> <i>[Mention at least 1 example for Comprehensiveness]</i> → Numbness ^[1,2] → Tingling sensation ^[1,2] → Pain ^[1] (burning pain in legs and feet, usually at night ^[2])

<p>Original phrasing: “How diabetes affects the feet”</p> <p><i>*Disclaimer required*</i></p>	<ul style="list-style-type: none"> → Coldness of leg ^[2] → Lowered ability to feel pain, heat or cold ^[1] - It can reduce blood supply to the feet ^[2,3]/damage blood vessels to the feet ^[4] - Symptoms due to reduced blood supply includes: <i>[Mention at least 1 example for Comprehensiveness]</i> <ul style="list-style-type: none"> → Cramps in leg ^[2,3] → Pain in leg ^[2,3] → Coldness of leg ^[2] → Feet looking reddish blue ^[2] → Cuts that take long to heal ^[2] - Both nerve damage and reduced blood supply ^[1,3] can lead to increased risk of developing foot ulcers (as an infected wound that does not heal well) ^[1-4] - Both nerve damage and reduced blood supply ^[1,3] can lead to increased risk of amputation ^[1-4] <p>[1] Centers for Disease Control and Prevention. Diabetes and Your Feet. [Internet]. [updated 2021 May 7; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/library/features/healthy-feet.html</p> <p>[2] Diabetes Australia. Foot Care and Diabetes. [Internet]. c2021 [cited 2021 Jul 22]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/preventing-complications/foot-care/</p> <p>[3] Diabetes UK. Diabetes and Foot Problems. [Internet]. [cited 2021 Jul 22]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications/feet</p> <p>[4] HealthHub. Diabetes Myth and Facts. [Internet]. [updated 2021 May 25; cited 2021 Jul 11]. Available from: https://www.healthhub.sg/a-z/diseases-and-conditions/592/facts--myths-of-diabetes</p>
<p>59. How does diabetes affect the eyes?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “How diabetes affects the eye”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 16 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Diabetes can lead to Diabetic Retinopathy ^[1-5] - Diabetic retinopathy occurs when high blood glucose damages the blood vessels in the retina/inner lining at the back of the eye ^[1-4] - Damaged blood vessels can budge/swell/leak/bleed ^[1-4] - Abnormal blood vessels can also grow on the retina ^[1-4] - Leading to vision problems/<i>[Mention at least 1 symptom of the vision problems for Comprehensiveness]</i> <ul style="list-style-type: none"> → Blur vision ^[2,4,5] → Dark spots in vision/floaters ^[2,4] → Trouble seeing colors ^[2] → Dark or empty areas in vision ^[2] → Worsening vision ^[4] → Eye pain ^[4] → Redness of eye ^[4] → Patchy vision ^[4,5] → Distorted vision ^[5] → Problems with balance/reading/watching TV/recognizing people ^[5] → Over sensitive to glare ^[5]

	<p>→ Difficulty seeing at night ^[5]</p> <ul style="list-style-type: none"> - Diabetes can lead to Diabetic Macular Edema ^[1,2] - Diabetic Macular Edema occurs when there is swelling at the macular/the part of the retina that helps in reading, driving and seeing faces ^[1,5] - The swelling can destroy the sharp vision in the eye ^[1]/lead to distorted vision ^[2] - Diabetic Macular Edema normally develops in people with signs of diabetic retinopathy ^[1,2] - Diabetes increases the chance of Glaucoma ^[1-3,5] - Glaucoma occurs when there is a damage to the optic nerve/nerve that connects the eye to the brain ^[1,2,5] - Due to too much pressure in the eye ^[2] - Diabetes increases the chance of Cataract ^[1-3] - High blood glucose can cause deposits to build up in the lens ^[1,2] - Causing the clear lens to become cloudy ^[1-3] - Diabetes can lead to vision loss ^[1-5] <p><u>Others:</u> <i>[No points for Comprehensiveness. Check for Accuracy when applicable]</i> → Double vision (a rare complication which is temporary) ^[5]</p> <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetic Eye Disease. [Internet]. [updated 2017 May; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/diabetic-eye-disease</p> <p>[2] Centers for Disease Control and Prevention. Diabetes and Vision Loss. [Internet]. [updated 2021 May 7; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/managing/diabetes-vision-loss.html</p> <p>[3] Diabetes UK. Diabetic Retinopathy—Diabetes and Eye Problems. [Internet]. [cited 2021 Jul 22]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications/retinopathy</p> <p>[4] National Health Service. Diabetic Retinopathy. [Internet]. [updated 2018 Oct 30; cited 2021 Jul 22]. Available from: https://www.nhs.uk/conditions/diabetic-retinopathy/</p> <p>[5] Diabetes Australia. Your Eye Health and Diabetes. [Internet]. c2021 [cited 2021 Jul 22]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/preventing-complications/eye-health/</p>
<p>60. How does diabetes affect the kidneys?</p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 7 points. Information in () is optional]</i> <i>[For Accuracy: check against everything written below. Information in () is compulsory]</i> <i>[For '/', accept either]</i></p> <ul style="list-style-type: none"> - Diabetes can damage the blood vessels in the kidneys ^[1-3]/filters ^[2,4,5]/nephrons ^[2,4,5] in the kidney - The kidney fails to perform its function of filtering the waste products out of the blood ^[2,3] - This leads to a buildup of waste products in the body ^[5] - Abnormal amounts of proteins can also be present in the urine ^[2,3] - There are often no symptoms ^[1-4] in the early stages ^[2,4]/until almost all the function is gone ^[3]

	<ul style="list-style-type: none"> - <i>[Mention at least 1 example of symptoms for Comprehensiveness]</i> <ul style="list-style-type: none"> → Swollen ankles/feet/hands ^[2] → Feeling sick ^[2] → Blood in urine ^[2,5] → Being short of breath ^[2,5] → Fluid build-up ^[3] → Stomach upset ^[3] → Weakness ^[3] → Loss of sleep ^[3] → Difficulty concentrating ^[3,5] → Poor appetite ^[3]/Loss of appetite ^[5] → Feeling really tired ^[4,5] → Difficulty sleeping ^[5] → Change in the frequency and amount of urination ^[5] → Headache ^[5] → Nausea and vomiting ^[5] - <i>[Mention at least 1 example of kidney complication for Comprehensiveness]</i> <ul style="list-style-type: none"> → Chronic kidney disease ^[1,2,4,5] → Nephropathy ^[1,2,5] → Bladder/kidney infections ^[5] → Kidney failure ^[3,5] → A need for dialysis ^[2,3,5] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetic Kidney Disease. [Internet]. [updated 2017 Feb; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/diabetic-kidney-disease</p> <p>[2] Diabetes UK. Diabetic Nephropathy (Kidney Disease). [Internet]. [cited 2021 Jul 22]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications/kidneys_nephropathy</p> <p>[3] American Diabetes Association. Kidney Disease (Nephropathy). [Internet]. c1995–2021 [cited 2021 Jul 11]. Available from: https://www.diabetes.org/diabetes/complications/kidney-disease-nephropathy</p> <p>[4] Centers for Disease Control and Prevention. Diabetes and Your Kidneys. [Internet]. [updated 2019 Mar 1; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/library/spotlights/diabetes-and-kidneys.html</p> <p>[5] Diabetes Australia. Bladder and Kidneys. [Internet]. c2021 [cited 2021 Jul 22]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/preventing-complications/bladder-kidneys/#:~:text=Diabetes%20can%20damage%20the%20kidney,for%20as%20long%20as%20possible</p>
<p>61. How does diabetes affect the heart?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “How</p>	<p><i>[For Comprehensiveness: 5 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Increases the chance of heart disease ^[1–5]/cardiovascular disease ^[1,2]/coronary artery disease ^[1–3] - Increases the chance of heart attack ^[2,3–5] - Increases the chance of stroke ^[1–3,5] - Increases the chance of heart failure ^[1] - High blood glucose can damage the blood vessels ^[2,4,5] and nerves ^[4] that control the heart

<p>diabetes affects the heart”</p> <p><i>*Disclaimer required*</i></p>	<p>[1] Centers for Disease Control and Prevention. Diabetes and Your Heart. [Internet]. updated 2021 May 7; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/library/features/diabetes-and-heart.html</p> <p>[2] Diabetes UK. Diabetes and Heart Disease. [Internet]. [cited 2021 Jul 22]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications/cardiovascular_disease#:~:text=When%20you%20have%20diabetes%2C%20you,disease%20affect%20your%20circulation%20too</p> <p>[3] American Diabetes Association. Diabetes Can Affect Your Heart. [Internet]. c1995–2021 [cited 2021 Jul 22]. Available from: https://www.diabetes.org/diabetes/type-2/diabetes-and-your-heart/diabetes-affect-your-heart</p> <p>[4] National Institute of Diabetes and Digestive and Kidney Diseases. Diabetes, Heart Disease, & Stroke. [Internet]. [updated 2021 Apr; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/heart-disease-stroke</p> <p>[5] Diabetes Australia. Heart Disease. [Internet]. c2021 [cited 2021 Aug 1]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/preventing-complications/heart-disease/</p>
<p>62. What is hypoglycemia?</p> <p>Question taken from: Google Trends</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 5 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either]</i></p> <p><i>[Accept readings in either mg/dL or mmol/L]</i></p> <ul style="list-style-type: none"> - Low blood glucose ^[1–3] - Blood glucose level <70 mg/dL (3.9 mmol/L) ^{[1,4]/<72 mg/dL (4 mmol/L) ^[2,3]} - <i>[Mention at least 1 possible cause of hypoglycemia for Comprehensiveness]</i> <ul style="list-style-type: none"> → Side effect of insulin/When people take insulin ^[1] → Taking too much insulin ^[2–5] → Taking certain diabetic medications (such as sulfonylureas and meglitinides) ^[1] → Taking too much diabetic medications ^[4] → Injecting the wrong insulin type ^[3] → Wrong timing for insulin administration ^[2,3] → Not eating enough carbohydrates ^[1–5] → Amount of fat, fiber and protein in your meals ^[2,3] → Skipping/delaying your meal ^[1,4,5] → Drinking alcohol ^[1,2,4,5] (without much food ^[1,5]) → Physical activity ^[1–5] → When you are sick ^[1] → Hot and humid weather ^[2] → Unexpected changes in schedule ^[2] → Being at high altitude ^[2] → Going through puberty ^[2] → Menstruation ^[2] - There is a need to take action to bring the glucose level back up to the target range ^[2–4] - It can be dangerous if left untreated ^[2–4] <p>[1] Diabetes Care. 6. Glycemic Targets: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S73</p> <p>[2] Diabetes Australia. Understanding Hypoglycaemia Unawareness. [Internet]. c2021 [cited 2021 Jul 22]. Available from:</p>

	<p>https://www.diabetesaustralia.com.au/living-with-diabetes/managing-your-diabetes/hypoglycaemia/</p> <p>[3] Diabetes UK. What is a Hypo? [Internet]. [cited 2021 Jul 22]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications/hypos</p> <p>[4] International Diabetes Federation. Hypoglycemia. [Internet]. [updated 2020 Feb 3; cited 2021 Aug 1]. Available from: https://www.idf.org/our-activities/care-prevention/hypoglycaemia.html</p>
<p>63. What are the symptoms of hypoglycemia?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “hypoglycemia symptoms”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 29 points]</i></p> <p><i>[For Accuracy: check against everything written below]</i></p> <p><i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Shaky ^[1-6]/Jittery ^[1]/Trembling ^[2,3] - Hunger ^[1-6] - Fast ^[1,3-6]/Irregular heartbeat ^[1] - Sweaty ^[1-3,5] - Dizzy ^[1,2,4,5]/Lightheaded ^[1,2,4] - Pale ^[1-4] - Mood change ^[2]/Change in behavior ^[1]/Change in personality ^[1]/Irritable ^[1,3,4,6]/Nervous ^[1,4,5]/Anxious ^[3-5]/Confusion ^[4-6]/Impatience ^[4]/Argumentative ^[1]/Combative ^[1]/Feeling tearful ^[3] - Headache ^[1,3,4] - Blur vision ^[1,3,4] - Sleepy/Tiredness ^[1,3,4] - Weak ^[1,2,4]/Have no energy ^[4] - Numbness/Tingling in the tongue ^[2], lips ^[3] and cheeks ^[4] - Uncoordinated ^[1,4] - Trouble concentrating ^[1,3]/Lack of concentration ^[2] - Confused/Disoriented ^[1,3]/Acting strange ^[5] - Chills ^[4] - Nausea ^[4] - Behavioral change ^[2] - Difficulty walking or seeing clearly ^[5] - Not able to follow instructions ^[2] - Unable to eat ^[1]/drink ^[1]/swallow ^[2] - Not able to treat own hypoglycemia ^[2] - Slurred speech ^[2] - Seizure/Convulsions/Jerky movements ^[1-5] - Fainting ^[5] - Loss of consciousness ^[1,2,6] - Coma ^[6] - Death ^[6] <p><u>Symptoms of hypoglycemia during sleep:</u></p> <ul style="list-style-type: none"> - <i>[Mention at least 1 symptom for Comprehensiveness]</i> <ul style="list-style-type: none"> → Crying out or having nightmares ^[1,4] → Sweating enough to make clothes or bed sheet wet ^[1,6] → Feeling tired/irritated/confused after waking up ^[1] <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Low Blood Glucose (Hypoglycemia). [Internet]. [updated 2016 Aug; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/low-blood-glucose-hypoglycemia</p> <p>[2] Diabetes Australia. Understanding Hypoglycaemia Unawareness. [Internet]. c2021 [cited 2021 Jul 22]. Available from:</p>

	<p>https://www.diabetesaustralia.com.au/living-with-diabetes/managing-your-diabetes/hypoglycaemia/</p> <p>[3] Diabetes UK. What is a Hypo? [Internet]. [cited 2021 Jul 22]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications/hypos</p> <p>[4] American Diabetes Association. Hypoglycemia (Low Blood Glucose). [Internet]. c1995–2021 [cited 2021 Jul 22]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/blood-glucose-testing-and-control/hypoglycemia</p> <p>[5] Centers for Disease Control and Prevention. Low Blood Sugar (Hypoglycemia). [Internet]. [updated 2021 Mar 25; cited 2021 Jul 11]. Available from: https://www.cdc.gov/diabetes/basics/low-blood-sugar.html</p> <p>[6] Diabetes Care. 6. Glycemic Targets: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Jul 11]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S73</p>
<p>64. How do I treat <u>hypoglycemia</u>?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “hypoglycemia treatment”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 10 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[Note that 1 tablespoon = 3 teaspoons]</i></p> <p><i>[Accept readings in either mg/dL or mmol/L]</i></p> <p><i>[For ‘/’, accept either]</i></p> <ul style="list-style-type: none"> - Eat or drink 15 g ^[1–6]/15–20 g ^[7] fast-acting carbohydrates - <i>[Mention at least 1 example of 15 g ^[1–3,5]/15–20 g ^[7] fast-acting carbohydrates for Comprehensiveness]</i> <ul style="list-style-type: none"> → ½ glass/ 4 ounces fruit juice ^[1–5,7] (not low calorie ^[1]/not reduced sugar ^[1]) → ½ glass/½ can/ 4–6 ounces can of soda ^[1,3,5–7]/soft drink ^[4] (not diet ^[2,5,6]/ not low calorie ^[1]/not reduced sugar ^[1]) → ½ packet/125 mL of sweetened drink ^[6] → 1 tablespoon sugar ^[1,2,5,6]/1 tablespoon sugar with half cup water ^[4] → 1 tablespoon of honey ^[1,2,5] → 1 tablespoon of corn syrup ^[1,2] → 2 tablespoons of raisins ^[1] → Hard candies ^[2,3]/Gumdrops ^[2,3] (see food label for how much to consume) → Sweets ^[4]/4–7 soft sweets ^[4] (not sugar-free ^[6]) → 6–7 jelly beans ^[3,5] → 3 ^[6]/3–4 ^[3]/4 ^[1]/4–5 ^[4] glucose tablets → 1 tube of Glucose gel ^[1,2,3] - Wait for 15 mins ^[1–6]/15–20 mins ^[7] and check blood glucose again - If it is still below 70/72 mg/dL (3.9/4.0 mmol/L), eat or drink 15 g ^[1–3,6,7]/15–20 g ^[7] fast-acting carbohydrates again - Wait for 15 mins ^[1–3]/15–20 mins ^[7] and check blood glucose again - Repeat until your glucose level increases to ≥70/72 mg/dL (3.9/4.0 mmol/L) ^[1–3,5] - Always take note of every episode of low blood sugar and inform your healthcare professional ^[2] <p><u>If symptoms resolve/blood sugar is ≥70/72 mg/dL (3.9/4.0 mmol/L):</u></p> <ul style="list-style-type: none"> - Eat a snack ^[1,2,5] or meal ^[2,5,6] (with longer acting ^[5]/slow acting carbohydrate ^[6]) - <i>[Mention at least 1 example of longer acting carbohydrate for Comprehensiveness]</i>

	<p>→ 1 slice of bread ^[4-6]</p> <p>→ 3 pieces of plain crackers ^[4,6]/Crackers ^[1]</p> <p>→ 1 piece of fruit ^[1,5]</p> <p>→ 1 glass of milk ^[5,6]</p> <p>→ 2–3 pieces of dried figs/apricot/other dried fruits ^[5]</p> <p>→ 1 tub of natural low fat yoghurt ^[5]</p> <p>→ Pasta ^[5]</p> <p>→ Rice ^[5]</p> <p><u>For severe hypoglycemia (<55 mg/dL or 3 mmol/L ^[3]):</u></p> <p>- Glucagon injection ^[1-4,5,7]</p> <p>[1] National Institute of Diabetes and Digestive and Kidney Diseases. Low Blood Glucose (Hypoglycemia). [Internet]. [updated 2016 Aug; cited 2021 Jul 11]. Available from: https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/low-blood-glucose-hypoglycemia</p> <p>[2] American Diabetes Association. Hypoglycemia (Low Blood Glucose). [Internet]. c1995–2021 [cited 2021 Jul 22]. Available from: https://www.diabetes.org/healthy-living/medication-treatments/blood-glucose-testing-and-control/hypoglycemia</p> <p>[3] Centers for Disease Control and Prevention. How To Treat Low Blood Sugar (Hypoglycemia). [Internet]. [updated 2021 Mar 25; cited 2021 Jul 22]. Available from: https://www.cdc.gov/diabetes/basics/low-blood-sugar-treatment.html</p> <p>[4] HealthXChange. Low Blood Glucose (Hypoglycaemia): What To Do. [Internet]. c2016 [cited 2021 Aug 12]. Available from: https://www.healthxchange.sg/diabetes/essential-guide-diabetes/low-blood-glucose-hypoglycaemia-treatment</p> <p>[5] Diabetes Australia. Understanding Hypoglycaemia Unawareness. [Internet]. c2021 [cited 2021 Jul 22]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/managing-your-diabetes/hypoglycaemia/</p> <p>[6] National University Hospital. Hypoglycemia (Low Blood Glucose). [Internet]. [updated 2021 Jul 8; cited 2021 Aug 12]. Available from: https://www.nuh.com.sg/our-services/Specialties/Medicine/Endocrinology/Pages/Hypoglycemia-(low-blood-glucose).aspx</p> <p>[7] Diabetes.co.uk. Hypoglycemia (Low Blood Glucose Levels). [Internet]. 2019 Jan 15 [cited 2021 Jul 22]. Available from: https://www.diabetes.co.uk/Diabetes-and-Hypoglycaemia.html#:~:text=Diabetes%20UK%20recommend%20that%20you,a%20non%2Ddiet%20soft%20drink</p>
<p>65. What is <u>diabetic ketoacidosis</u>?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “diabetic ketoacidosis”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 7 points]</i></p> <p><i>[For Accuracy: check against everything written below]</i></p> <p><i>[For ‘/’, accept either.]</i></p> <ul style="list-style-type: none"> - Diabetic ketoacidosis is a condition that occurs when there is insufficient insulin ^[1-4] <i>[Accept: Not enough insulin]</i> - It is serious ^[1-4]/can lead to diabetic coma ^[1]/can lead to death ^[1]/life threatening ^[3] - Body cells do not have enough glucose for fuel/energy ^[1-4] - Body cells start to use fats for energy ^[1-4] - Ketones are produced and released into the blood ^[1,2] <i>[Accept: ‘Produce high level of blood acids called ketones’]</i> - This causes the blood to be more acidic ^[1,2] - More common among people with type 1 diabetes ^[3,4]/Rare among people with type 2 diabetes ^[1,4] <p>[1] American Diabetes Association. Diabetes & DKA (Ketoacidosis). [Internet]. c1995–2021 [cited 2021 Jul 23]. Available from: https://www.diabetes.org/diabetes/complications/dka-ketoacidosis-ketones</p> <p>[2] Diabetes UK. What is DKA (Diabetic Ketoacidosis)? [Internet]. [cited 2021 Jul 23]. Available from:</p>

	<p>https://www.diabetes.org.uk/guide-to-diabetes/complications/diabetic_ketoacidosis</p> <p>[3] Centers for Disease Control and Prevention. Diabetic Ketoacidosis. [Internet]. [updated 2021 Mar 25; cited 2021 Jul 23]. Available from: https://www.cdc.gov/diabetes/basics/diabetic-ketoacidosis.html</p> <p>[4] Healthdirect. Diabetic ketoacidosis. [Internet]. [updated 2019 Nov; cited 2021 Jul 23]. Available from: https://www.healthdirect.gov.au/diabetic-ketoacidosis#:~:text=Diabetic%20ketoacidosis%2C%20sometimes%20called%20DKA,produces%20by%2Dproducts%20called%20ketones</p>
<p>66. What are the symptoms of <u>diabetic ketoacidosis</u>?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “diabetic ketoacidosis symptoms”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 7 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For ‘/’, accept either]</i></p> <p><u>Early Symptoms</u></p> <ul style="list-style-type: none"> - <i>[For Comprehensiveness: 3 points - mentions 4 - 5 early symptoms]</i> - <i>2 points - mentions 2 - 3 early symptoms</i> - <i>1 point - mentions 1 early symptom</i> - <i>0 points - if it did not give any early symptoms]</i> <ul style="list-style-type: none"> → Thirsty ^[1-3] → Dry mouth ^[1-3] → Frequent urination ^[1-3] → High blood glucose levels ^[1,2] → High levels of ketones in urine ^[1] <p><u>Late Symptoms</u></p> <ul style="list-style-type: none"> - <i>[For Comprehensiveness: 3 points - mentions 11 - 16 late symptoms]</i> - <i>2 points - mentions 6 - 10 late symptoms</i> - <i>1 point - mentions 1 - 5 late symptoms</i> - <i>0 points - if it did not give any late symptoms]</i> <ul style="list-style-type: none"> → Fruity/sweet smelling breath ^[1-4] → Tired ^[1,2,3]/ sleepy ^[2] → Flushed skin ^[1]/face ^[3]/cheeks ^[4] → Vomiting ^[1,3,4] → Nausea ^[1,3] → Dry skin ^[1,3] → Abdominal ^[1,4]/stomach pain ^[2,3] <i>[Accept: Tummy pain]</i> → Rapid ^[4]/fast deep breathing ^[3] → Difficulty breathing ^[1] → Blurred vision ^[2] → Feeling sick ^[2] → Headache ^[3] → Dehydration ^[4] → Muscle aches or stiffness ^[3] → Confusion ^[1,2]/troubles concentrating ^[1] → Passing out ^[2] - Requires immediate medical attention if you experience any of these symptoms ^[1,2,4]

	<p>[1] American Diabetes Association. Diabetes & DKA (Ketoacidosis). [Internet]. c1995–2021 [cited 2021 Jul 23]. Available from: https://www.diabetes.org/diabetes/complications/dka-ketoacidosis-ketones</p> <p>[2] Diabetes UK. What is DKA (Diabetic Ketoacidosis)? [Internet]. [cited 2021 Jul 23]. Available from: https://www.diabetes.org.uk/guide-to-diabetes/complications/diabetic_ketoacidosis</p> <p>[3] Centers for Disease Control and Prevention. Diabetic Ketoacidosis. [Internet]. [updated 2021 Mar 25; cited 2021 Jul 23]. Available from: https://www.cdc.gov/diabetes/basics/diabetic-ketoacidosis.html</p> <p>[4] Healthdirect. Diabetic ketoacidosis. [Internet]. [updated 2019 Nov; cited 2021 Jul 23]. Available from: https://www.healthdirect.gov.au/diabetic-ketoacidosis#:~:text=Diabetic%20ketoacidosis%2C%20sometimes%20called%20DKA,produces%20by%2Dproducts%20called%20ketones</p>
COVID-19 and Diabetes	
<p>67. Are people with diabetes more likely to get COVID-19?</p> <p>Question taken from: American Diabetes Association (FAQ)</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 3 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For Updatedness: 20 Aug 2021]</i></p> <ul style="list-style-type: none"> - People with diabetes are not more likely to get COVID-19/Not enough data to conclude that people with diabetes are more likely to get COVID-19 ^[1,2] - People with diabetes tend to have more serious COVID-19 complications when they are infected with COVID-19 ^[1–3] <i>[Accept: More likely to get severely ill ^[3]]</i> - People with diabetes have a higher risk of death when they are infected with COVID-19 ^[4] <p>[1] American Diabetes Association. How COVID-19 Impacts People with Diabetes. [Internet]. c1995–2021 [cited 2021 Aug 30]. Available from: https://www.diabetes.org/coronavirus-covid-19/how-coronavirus-impacts-people-with-diabetes</p> <p>[2] Diabetes UK. Exploring Research: Can Coronavirus Cause Diabetes, or Make It Worse? [Internet]. 2021 Jul 5 [cited 2021 Aug 27]. Available from: https://www.diabetes.org.uk/about_us/news/new-worse-cases-coronavirus</p> <p>[3] Centers for Disease Control and Prevention. People with Certain Medical Conditions. [Internet]. [updated 2021 Aug 20; cited 2021 Aug 30] Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html</p> <p>[4] World Health Organization. Episode#46—Diabetes & COVID-19. [Internet]. 2021 Jul 16 [cited 2021 Aug 27]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/media-resources/science-in-5/episode-46---diabetes-covid-19</p>
<p>68. Are the risks for COVID-19 different for people with type 1 and type 2 diabetes?</p> <p>Question taken from: American Diabetes Association (FAQ)</p>	<p><i>[For Comprehensiveness: 5 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For Updatedness: 20 Aug 2021]</i></p> <ul style="list-style-type: none"> - People with type 1 or type 2 both have an increased risk of severe illness from COVID-19 ^[1,2] - People with diabetes can vary in their age ^[1] - People with diabetes can vary in the diabetes complications they have ^[1] - People with diabetes can vary in how well diabetes is managed ^[1] - Regardless of the type of diabetes, those with diabetes-related health problems/complications are likely to have worse outcomes than those who do not have them ^[1] <p>[1] American Diabetes Association. How COVID-19 Impacts People with Diabetes. [Internet]. c1995–2021 [cited 2021 Aug 30]. Available from: https://www.diabetes.org/coronavirus-covid-19/how-coronavirus-impacts-people-with-diabetes</p>

<p>Original phrasing: Are the risks different for people with type 1 and type 2 diabetes?</p> <p><i>*Disclaimer required*</i></p>	<p>[2] Centers for Disease Control and Prevention. People with Certain Medical Conditions. [Internet]. [updated 2021 Aug 20; cited 2021 Aug 30]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html</p>
<p>69. Does COVID-19 cause diabetes?</p> <p>Question taken from: American Diabetes Association (FAQ)</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 1 point]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For Updatedness: 5 July 2021]</i></p> <ul style="list-style-type: none"> - Not enough evidence to conclude that COVID-19 causes diabetes ^[1,2] <p>[1] American Diabetes Association. How COVID-19 Impacts People with Diabetes. [Internet]. c1995–2021 [cited 2021 Aug 30]. Available from: https://www.diabetes.org/coronavirus-covid-19/how-coronavirus-impacts-people-with-diabetes [2] Diabetes UK. Exploring Research: Can Coronavirus Cause Diabetes, Or Make It Worse? [Internet]. 2021 Jul 5 [cited 2021 Aug 30]. Available from: https://www.diabetes.org.uk/about_us/news/new-worse-cases-coronavirus</p>
<p>70. Can COVID-19 make diabetes worse?</p> <p>Question taken from: AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 3 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For Updatedness: 5 July 2021]</i></p> <ul style="list-style-type: none"> - When infected with a virus, people with diabetes have an increased risk of diabetic ketoacidosis/having the buildup of ketones in the blood ^[1] - Diabetic ketoacidosis is commonly experienced by people with type 1 diabetes ^[1] - Blood glucose levels can also be raised ^[2,3] <p>[1] American Diabetes Association. How COVID-19 Impacts People with Diabetes. [Internet]. c1995–2021 [cited 2021 Aug 30]. Available from: https://www.diabetes.org/coronavirus-covid-19/how-coronavirus-impacts-people-with-diabetes [2] International Diabetes Federation. COVID-19 and Diabetes. [Internet]. c2021 [updated 2021 May 20; cited 2021 Aug 30]. Available from: https://www.idf.org/aboutdiabetes/what-is-diabetes/covid-19-and-diabetes/1-covid-19-and-diabetes.html [3] Diabetes UK. Exploring Research: Can Coronavirus Cause Diabetes, Or Make It Worse? [Internet] 2021 Jul 5 [cited 2021 Aug 30]. Available from: https://www.diabetes.org.uk/about_us/news/new-worse-cases-coronavirus</p>
<p>71. How is COVID-19 dangerous for diabetic patients?</p> <p>Question taken from:</p>	<p><i>[For Comprehensiveness: 10 points]</i> <i>[For Accuracy: check against everything written below]</i> <i>[For Updatedness: 20 May 2021]</i></p> <ul style="list-style-type: none"> - Harder to treat viral infections in diabetes patients due to fluctuations in blood glucose levels ^[1] - Harder to treat viral infections in diabetes patients due to presence of diabetes complications ^[1]

<p>AnswerThePublic</p> <p><i>*Disclaimer required*</i></p>	<ul style="list-style-type: none"> - Harder to fight the virus with a compromised immune system ^[1] - The virus may also thrive in a high blood glucose environment ^[1] - Viral infections can increase inflammation for people with diabetes ^[2] - Viral infections can increase internal swelling for people with diabetes ^[2] - There is also increased risk of diabetic ketoacidosis for people with diabetes ^[2] - Sepsis and septic shock are some of the more serious complications that some people with COVID-19 have experienced ^[2] - Diabetic ketoacidosis can make it challenging for diabetic people manage fluid intake and electrolyte levels which is important in managing sepsis ^[2] - People with diabetes tend to have more serious COVID-19 complications when they are infected with COVID-19 ^[2] <p>[1] International Diabetes Federation. COVID-19 and Diabetes. [Internet]. c2021 [updated 2021 May 20; cited 2021 Aug 30]. Available from: https://www.idf.org/aboutdiabetes/what-is-diabetes/covid-19-and-diabetes/1-covid-19-and-diabetes.html</p> <p>[2] American Diabetes Association. How COVID-19 Impacts People with Diabetes. [Internet]. c1995–2021 [cited 2021 Aug 30]. Available from: https://www.diabetes.org/coronavirus-covid-19/how-coronavirus-impacts-people-with-diabetes</p>
<p>72. How to manage my diabetes during a pandemic?</p> <p>Question taken from: AnswerThePublic</p> <p>Original phrasing: “diabetes during pandemic”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 12 points. Information in () is optional]</i></p> <p><i>[For Accuracy: check against everything written below. Information in () is compulsory]</i></p> <p><i>[For ‘/’, accept either]</i></p> <p><i>[For Updatedness: 13 Aug 2021]</i></p> <ul style="list-style-type: none"> - Eat healthily ^[1,2] - Be physically active ^[1,2] - Pay attention to your glucose levels ^[1,3]/monitor glucose levels regularly ^[3]/ keep glucose level within target ^[1] - Make sure you have enough diabetes medications you need ^[1] (in case you have to be quarantined) ^[3] - Make sure you have enough medical supplies (insulin needles, glucose test strips and lancets for blood sugar test) till your next medical appointment ^[1] - Know what to do if you feel sick ^[1,3] - Consider postponing your next doctor’s appointment/switching to tele consultation ^[1] - Make sure you have enough water (as infections can increase the need for fluids) ^[3] - Make sure you have access to enough food ^[3] - Know how to manage a low blood glucose/hypoglycemia incident ^[3] - Have someone that knows you have diabetes and that you can contact if you need help ^[3] <p><u>General advice on how to prevent COVID-19</u></p> <ul style="list-style-type: none"> - <i>[Mention at least 1 general advice for Comprehensiveness]</i> <ul style="list-style-type: none"> → Keep up-to-date on COVID-19 news ^[1] → Protect yourself from being infected ^[1] → Observe hand hygiene ^[1,2]/Wash hand regularly and thoroughly ^[3,4]

	<p>→ Avoid touching your face before you wash your hands ^[3]</p> <p>→ Clean and disinfect anything that is touched frequently ^[3,4]</p> <p>→ Do not share food/glasses/towel/tools ^[3]</p> <p>→ Wear a mask when you go out ^[1,2,4]</p> <p>→ Avoid crowded places ^[1]/poorly ventilated space ^[2,4]</p> <p>→ Keep a safe distance from others ^[1,2,4] (at least 1m apart ^[1]/at least 6 feet apart ^[4])</p> <p>→ Cover your mouth and nose when you cough or sneeze ^[3,4]</p> <p>→ Avoid contact with anyone with symptoms of respiratory illness ^[3]</p> <p>→ Stay at home if you have flu-like symptoms ^[3]</p> <p>→ Take the COVID-19 vaccination ^[1,2,4]</p> <p>→ If you experience flu-like symptoms/ feel sick, consult a healthcare professional ^[1,3]</p> <p>[1] National University Hospital. Living With Diabetes During the COVID-19 Pandemic. [Internet]. [updated 2021 Mar 9; cited 2021 Aug 30]. Available from: https://www.nuh.com.sg/our-services/Specialties/Medicine/Endocrinology/Pages/Living-with-Diabetes-during-COVID-19.aspx</p> <p>[2] World Health Organization. Episode#46—Diabetes & COVID-19. [Internet]. 2021 Jul 16 [cited 2021 Aug 30]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/media-resources/science-in-5/episode-46---diabetes-covid-19</p> <p>[3] International Diabetes Federation. COVID-19 and Diabetes. [Internet]. c2021 [updated 2021 May 20; cited 2021 Aug 30]. Available from: https://www.idf.org/aboutdiabetes/what-is-diabetes/covid-19-and-diabetes/1-covid-19-and-diabetes.html</p> <p>[4] Centers for Disease Control and Prevention. How to Protect Yourself and Others. [Internet]. [updated 2021 Aug 13; cited 2021 Aug 30]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html</p>
<p>73. Can people with diabetes get the COVID-19 vaccine?</p> <p>Question taken from: Google Trends</p> <p>Original phrasing: “can people with diabetes get the covid vaccine”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 2 points]</i></p> <p><i>[For Accuracy: check against everything written below]</i></p> <p><i>[For Updatedness: 19 August 2021]</i></p> <ul style="list-style-type: none"> - Yes, it is recommended for people with diabetes to get the vaccine ^[1–5] - Since people with diabetes are at risk of serious COVID-19 complications ^[2–5] <p>[1] Ministry of Health Singapore. FAQs—About COVID-19 vaccines. [Internet]. [updated 2021 Aug 10; cited 2021 Aug 30] Available from: https://www.moh.gov.sg/covid-19/vaccination/faqs-about-covid-19-vaccines</p> <p>[2] International Diabetes Federation. Diabetes & COVID-19 Vaccination and Treatments. [Internet]. c2021 [updated 2021 Mar 23; cited 2021 Aug 30]. Available from: https://idf.org/our-network/regions-members/europe/europe-news/370:diabetes-coronavirus-vaccination.html</p> <p>[3] Diabetes Australia. What You Need to Know about COVID-19 and Diabetes. [Internet]. c2021 [updated 2021 Jul 23; cited 2021 Aug 30]. Available from: https://www.diabetesaustralia.com.au/living-with-diabetes/covid19/</p> <p>[4] Diabetes UK. Coronavirus Vaccines and Diabetes. [Internet]. 2021 Aug 18 [cited 2021 Aug 30]. Available from: https://www.diabetes.org.uk/about_us/news/coronavirus-vaccines</p> <p>[5] Diabetes Care. 4. Comprehensive Medical Evaluation and Assessment of Comorbidities: Standards of Medical Care in Diabetes—2021. [Internet]. 2021 Jan 1 [cited 2021 Aug 30]. Available from: https://care.diabetesjournals.org/content/44/Supplement_1/S40</p>

<p>74. Will taking the COVID-19 vaccine affect my diabetes?</p> <p>Question taken from: International Diabetes Federation</p> <p>Original phrasing: “Will taking the vaccine affect my diabetes”</p> <p><i>*Disclaimer required*</i></p>	<p><i>[For Comprehensiveness: 5 points]</i></p> <p><i>[For Accuracy: check against everything written below]</i></p> <p><i>[For Updatedness: 22 Mar 2021]</i></p> <ul style="list-style-type: none"> - The COVID-19 vaccine may cause an increase in blood glucose for a few days ^[1,2] - Drink plenty of water ^[1] - Monitor blood glucose closely ^[1, 2] - Make sure you have someone to support you ^[1] - Speak to your healthcare professional if you need any help ^[2] <p>[1] International Diabetes Federation. Diabetes & COVID-19 Vaccination and Treatments. [Internet]. c2021 [updated 2021 Mar 22; cited 2021 Aug 30]. Available from: https://idf.org/our-network/regions-members/europe/europe-news/370:diabetes-coronavirus-vaccination.html</p> <p>[2] Diabetes UK. Coronavirus Vaccines and Diabetes. [Internet]. 2022 Jul 19 [cited 2023 Mar 23]. Available from: https://www.diabetes.org.uk/about_us/news/coronavirus-vaccines#:~:text=This%20may%20include%20your%20body,about%20managing%20high%20blood%20sugars</p>
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