STATISTICS AND STUDIES CHEAT SHEET

Test how ready you are for the exam with the Statistics and Studies Quiz in the Free Quizzes section!

Statistic (summarized)	Why is it important?	Page (details)
9.3% of Canadians have DM with an expected rise to 12.1% in 2025	Almost 1 in 10 Canadians has diabetes now. Diabetes leads to significant morbidity, mortality and costs to the health care system. If unchecked, the prevalence will rise to 1 in 8 by 2025 which is why you need to get your CDE and help people now!	S52
DM increases cardiovascular (CV) age by 15 years	People with diabetes are at a higher CV risk than people who don't have diabetes. That is why CV risk reduction such as statins, ACE-I, regular ECG's and quitting smoking is important to lower their risk	S162
65-80% of people with DM will die from heart disease	Same as above	S170
10% of people with diabetes have Major Depressive Disorder	Depression often leads to worse control of diabetes. Poorly controlled diabetes often leads to more depression. This is a vicious cycle that you need to be able to identify in your patients and be able to offer them support to help them break free	S131
Erectile dysfunction affects 34-45% of men with DM	It is important to screen for erectile dysfunction because it is so common. I fully understand it is an awkward question. I say "this is something that about 35-45% of men with diabetes are affected by and is something they teach me in school to ask. Have you been affected by erectile dysfunction? Its common with diabetes"	S228
80-90% of people with type 2 DM have excess weight or obesity	Since excess weight is so common you need to 1) learn to discuss it respectfully- I recommend the 5As from the Obesity Network 2) know what diets and medications help/cause weight gain and 3) be able to explain how weight contributes to insulin resistance	S141
DM is the leading cause of blindness and retinopathy has a 40% prevalence	It is important to remind patients to be screened for retinopathy at the appropriate intervals as it can sometimes be easy to forget and be missed at yearly physicals.	S210
DM is the leading cause of kidney disease and 50% of people show kidney damage	GFR is usually checked at yearly physicals but ACR is commonly missed (mark random not 24 hour on the lab or your patients have to lug around a jug to collect their urine for an entire day) so make sure this is checked. Also ensure the patient is on ACE-I/ARB, statin and have their medications changed/discontinued to the renal dosing if appropriate.	S201
40% of women with gestational DM will develop type 2 DM	Nearly half of women who have had gestational diabetes will develop type 2 diabetes later in life. These women should be screened regularly. Also, they should be educated on their increased risk and lifestyle interventions to reduce that risk.	S270
30-84% of women with gestational DM will develop it again	Women who have had gestational diabetes need to be counselled on the risk of developing gestational diabetes again. Should the women become pregnant again they would need to be monitored	S271

in subsequent pregnancies	more closely. Also, they should be educated on their increased risk of type 2 DM and lifestyle interventions to reduce that risk.	
58% of people with type 1 DM and 29% of people with type 2 DM have had severe hypoglycemia	That is why its recommended to ask about hypoglycemia at every appointment. Do not assume patients will automatically tell you if they have had lows. They could be ashamed or feel its not a big deal. Hypoglycemia is associated with increased mortality, resistance to medications, diabetes distress, poorer outcomes, etc. so make sure you check if your pt is experiencing hypoglycemia	Diabetes Canada website
A 1% reduction in A1c decreases any diabetes related endpoint by 21% in type 2 diabetes	Patients can get discouraged if they cannot get to target. Some patients have "all or nothing" thinking where if they are not at target they feel they are doomed or not making progress. Remind them that a 1% reduction in A1c makes a difference and encourage them to continue their efforts	UKPDS
Indigenous people have a 10-17% prevalence of type 2 diabetes	Indigenous people are at a high risk of developing type 2 diabetes. Advice on prevention should be offered and screening should be suggested as per the guidelines.	S297

<table>
<tr><th>Study name</th><th>Study Population</th><th colspan="3">Notable Results (summary only, see actual study for details)</th></tr>
<tr><td>UKPDS- United Kingdom Prospective Diabetes Study</td><td>Type 2 DM</td><td colspan="3">A landmark study that showed that intensive therapy (A1c of 7%) arm had a 21% relative risk reduction in retinopathy, 34% relative risk reduction for microalbuminuria, 16% relative risk reduction of myocardial infarction (did not reach significance) compared to the conventional arm (A1c of 8%). A later analysis found a 1% reduction in A1c decreases any endpoints by 21%</td></tr>
<tr><td rowspan="7">DCCT/EDIC- Diabetes Complications & Control Trial/ Epidemiology of Diabetes Interventions & Complications</td><td rowspan="7">Type 1 DM</td><td colspan="3">A landmark study that showed that the intensive therapy (A1 of 7%) arm had reductions in microvascular events compared to the conventional therapy (A1c of 9%).</td></tr>
<tr><td>Intensive Therapy</td><td>No complications at start of study</td><td>Some complications at start of study</td></tr>
<tr><td>Retinopathy</td><td>76% reduction</td><td>54% less progression & 45% less need for laser therapy</td></tr>
<tr><td>Nephropathy</td><td>34% less micro-albuminuria</td><td>43% less micro-albuminuria & 56% less proteinuria</td></tr>
<tr><td>Neuropathy</td><td>69% less occurrence</td><td>57% less occurrence</td></tr>
<tr><td>Heart disease</td><td>Trend towards reduction in hypercholesteremia</td><td>Trend towards reduction in hypercholesteremia</td></tr>
<tr><td colspan="3">In the follow up trial, EDIC, it was found that intensive therapy reduced the risk of any CVD event by 42% at 9 years, 33% at 18 years and at 30% at 30 years.</td></tr>
</table>

ACCORD	Type 2 DM	This study aimed for an A1c of 6% in the treatment arm and a relaxed A1c in the placebo arm. At that time metformin, SU's and insulin were the only options. They had to stop the study early due to EXCESS DEATHS in the treatment arm. Why did this happen? Two main camps of thought 1) Excess hypoglycemia caused more deaths 2) More research is needed. I fall in camp 1 so make sure your patients are not experiencing hypoglycemia
CARMELINA, SAVOR-TIMI, TECOS, EXAMINE,	DPP-4 inhibitor use in patients with type 2 DM	No significant CV benefit
REWIND, EXSCEL, ELIXA, LEADER, PIONEER, SUSTAIN	GLP-1 analog use in patients with type 2 DM	Victoza (liraglutide), Ozempic (semaglutide) and Trulicity (dulaglutide) showed significant secondary CV benefits Byetta/Bydureon (exenatide) and Adlyxine (lixisenatide) showed no significant CV benefit Trulicity (dulaglutide) showed significant primary CV benefit
CANVAS, EMPA-REG, CREDENCE, DECLEARE-TIMI, DAPA-HF	SGLT-2 inhibitor use in patients with type 2 DM	Jardiance (empagliflozin) and Invokana (canagliflozin) showed significant secondary CV benefit while Forxiga (dapagliflozin) did not All three of the above SGLT-2 inhibitors when used in patients with type 2 diabetes and heart failure showed a significant reduction in hospitalizations due to heart failure and CV benefits All three of the above SGLT-2 inhibitors when used in patients with type 2 diabetes and chronic kidney disease have shown a significant reduction in the progression of nephropathy
TODAY- Treatment Options for Type 2 Diabetes in Adolescents and Youth	Youth aged 10-17 years with type 2 diabetes treated with metformin, rosiglitazone and lifestyle changes	The primary goal was to achieve an A1c of 8% of less 51.7% of the subjects failed to achieve the primary goal with metformin alone 38.6% of the subjects failed to achieve the primary goal with metformin and rosiglitazone 46.6% of the subjects failed to achieve the primary goal with metformin and lifestyle changes