Diagnosis of diabetes mellitus in cats according to ALIVE criteria

Signalment, history and physical examination

Anorexia, vomiting, diarrhea, dehydration and/or lethargy

Check for ketones **(1)**

Diabetic ketoacidosis or non-ketotic hyperglycemic hyperosmolar syndrome **(2)**

Insulin, fluid therapy, supportive treatments **(3)**

CBC, biochemistry, urinalysis, systemic blood pressure

Systemic hypertension

Antihypertensive treatment

Concurrent disease **(4)**

Treat appropriately

Concurrent administration of insulin antagonistic drugs (e.g. glucocorticoids or progestagens)?

YES

Reduce/stop medications

Owner education, dietary recommendations **(5)**, exercise

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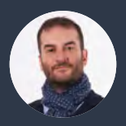
KEY: Coloured boxes correlate with the sections of the guidance note. Numbers in brackets (e.g. (1)) correlate with numbered sections of the guidance note.

- Diagnostic Protocol
- Diagnosis
- Treatment



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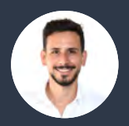

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Ketonuria **(1)** or previous diabetic ketoacidosis **(2)**

NO

Consider SGLT-2 inhibitor **(6)**

History, physical examination, body weight
Check for ketones **(1)**
Glucose monitoring **(8)**
Glycated proteins **(9)**

Persistent diarrhea

Decrease the dose by 50%

Absence of clinical signs and ketonuria

Continue with the same dose
Return to ○

Ketonuria or persistent hyperglycemia

Stop treatment
Initiate insulin **(7)**
Return to ✧

YES

Insulin therapy **(7)**

History, physical examination, body weight, glucose monitoring **(8)**, glycated proteins **(9)**, check for ketones ✧

Insulin dose adjustment, if needed (10)

Clinical hypoglycemia **(11)**

Stop insulin

Reduce insulin

Monitor for diabetes recurrence

Glucose consistently low
Glucose values consistently <150 mg/dL (8.3 mmol/L)

Consider diabetic remission **(12)**

Stop insulin

Reduce insulin

Monitor for diabetes recurrence

Good glycemic control:

- Absence of clinical signs
- Most glucose values between 80-250 mg/dL (4.4-13.9 mmol/L)
- Glucose nadir between 80-150 mg/dL (4.4-8.3 mmol/L)

Keep insulin dose the same

Reassess glycemic control
Return to ✧

Glucose consistently high/marked glycemic variability
Insulin ineffective in lowering glucose concentrations or marked glycemic variability

Improper handling of insulin?

NO

Consider additional testing and/or diagnostic imaging

Concurrent disease **(4)** detected?

NO

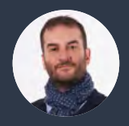
Change the type of insulin or introduce GLP-1 analogue

YES

Treat appropriately **Return to** ✧

YES

Correct the problem
Return to ✧



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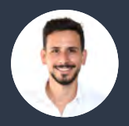

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