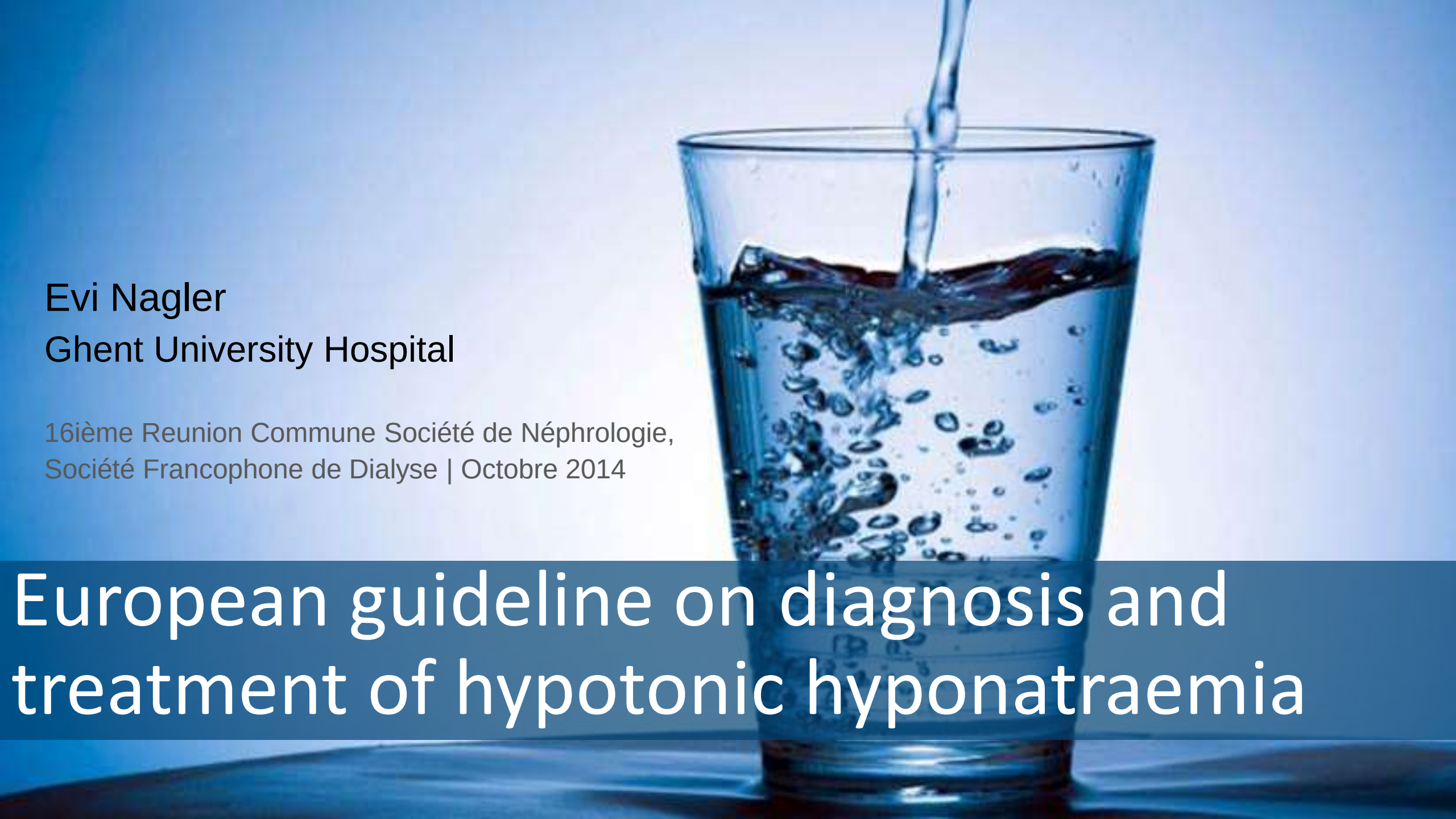

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16ième Reunion Commune Société de Néphrologie,
Société Francophone de Dialyse | Octobre 2014

European guideline on diagnosis and treatment of hypotonic hyponatraemia

Programme

1 Context

2 Development

3 Diagnosis

4 Treatment

5 Challenges

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2 Development

3 Diagnosis

4 Treatment

5 Challenges

Medical Practice

The trouble with guidelines

Too complex
Too simple
Add nothing
contradictory

What am I supposed to do?!

European guideline

European guideline

NDT Advance Access published February 25, 2014

Nephrol Dial Transplant (2014) 0: 1–39
doi: 10.1093/ndt/gfu040

ndt
Nephrology Dialysis Transplantation

Clinical Practice Guideline

Clinical practice guideline on diagnosis and treatment of hyponatraemia

Goce Spasovski[1], Raymond Vanholder[2], Bruno Allolio[3], Djillali Annane[4], Steve Ball[5], Daniel Bichet[6], Guy Decaux[7], Wiebke Fenske[3], Ewout Hoorn[8], Carole Ichai[9], Michael Joannidis[10], Alain Soupart[7], Robert Zietse[8], Maria Haller[11], Sabine van der Veer[12], Wim Van Biesen[2] and Evi Nagler[2] on behalf of the Hyponatraemia Guideline Development Group

Programme

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2 Development

3 Diagnosis

4 Treatment

5 Challenges

Recommendation generation

Recommendation generation - Strength

Grade	Implications	
	Patients	Clinicians
1 - strong 'We recommend'	**Most** people would want the recommended course of action, only **few** would not	Most patients should receive the recommended course of action
2 - weak 'We suggest'	Most people would want the recommended course of action, but **many** would not	Recognize that different choices will be appropriate for different patients.

Recommendation generation - Strength

- Quality of the evidence
  - A: high quality: multiple well executed RCTs
  - B: moderate quality: RCTs with flaws – multiple large well executed observational studies
  - C: low quality: small observational studies
  - D: very low quality: case reports
- Balance between benefits and harms
- Difference in values and preferences
- Whether the benefits are worth the costs

Recommendation generation - Strength

Strength Recommendation	Level Evidence
1	A
1	B
1	C
1	D
2	A
2	B
2	C
2	D

- Benefits cleary outweigh harms
- High level evidence

- Serious adverse effect from case-reports
- Safe alternative available

- High quality evidence
- Little benefit

- Benefits outweigh harms
- Very low level evidence

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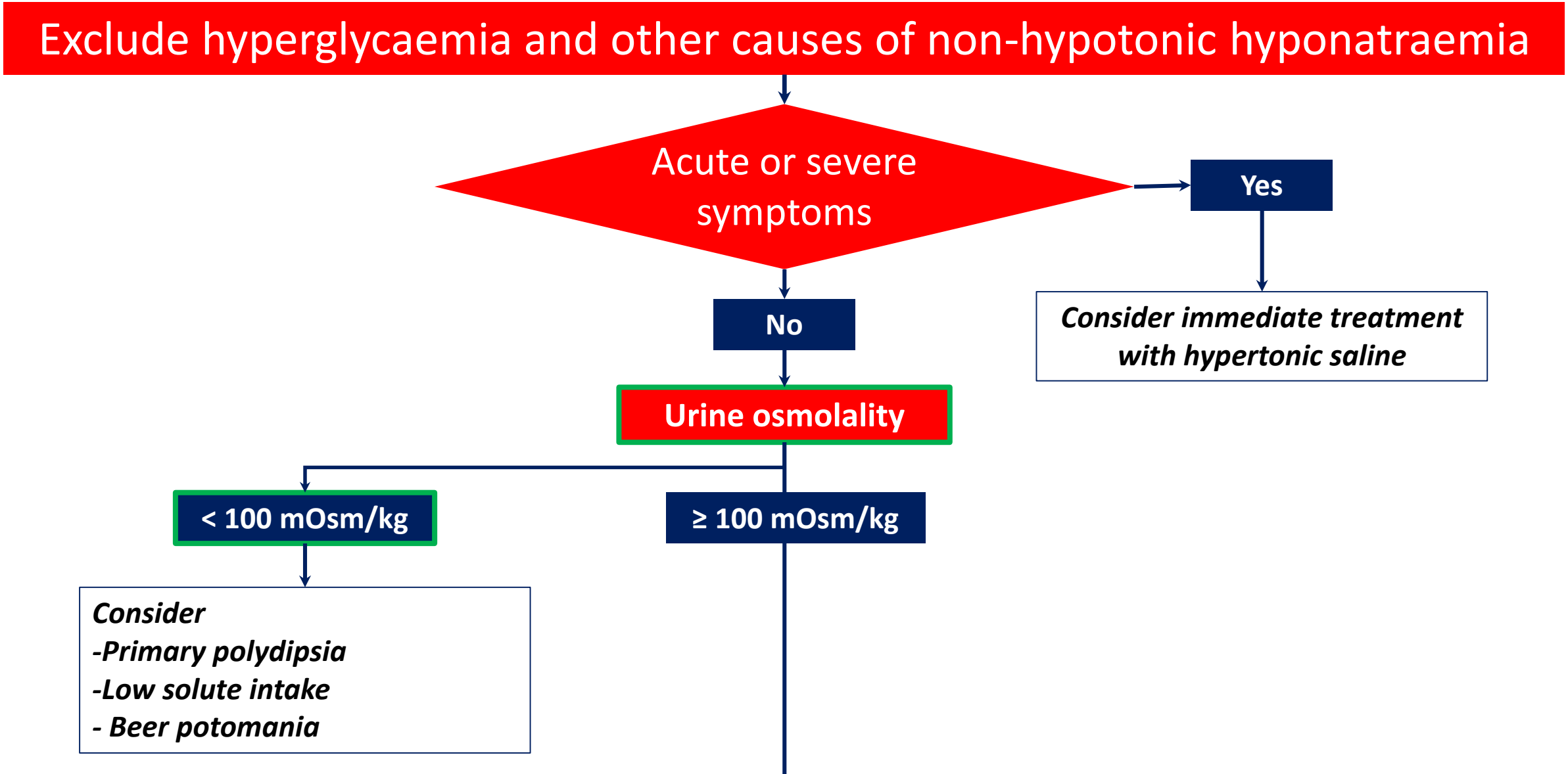
2 Development

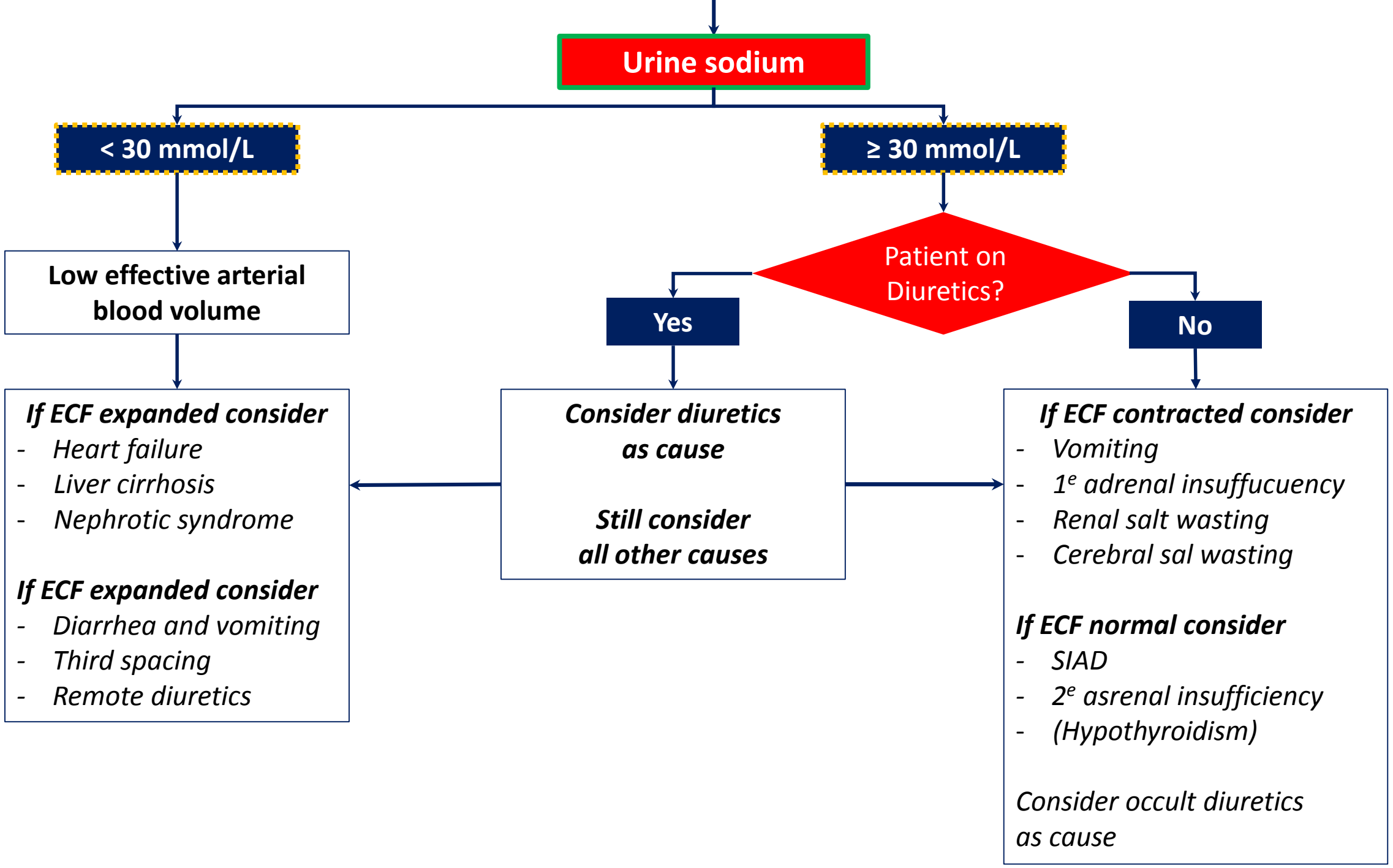
3 Diagnosis

4 Treatment

5 Challenges

Diagnostic algorithm




Urine sodium
< 30 mmol/L
≥ 30 mmol/L
Low effective arterial blood volume
Patient on Diuretics?
Yes
No
If ECF expanded consider
- Heart failure
- Liver cirrhosis
- Nephrotic syndrome
If ECF expanded consider
- Diarrhea and vomiting
- Third spacing
- Remote diuretics
Consider diuretics as cause
Still consider all other causes
If ECF contracted consider
- Vomiting
- 1e adrenal insuffucuency
- Renal salt wasting
- Cerebral sal wasting
If ECF normal consider
- SIAD
- 2e asrenal insufficiency
- (Hypothyroidism)
Consider occult diuretics as cause

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2 Development

3 Diagnosis

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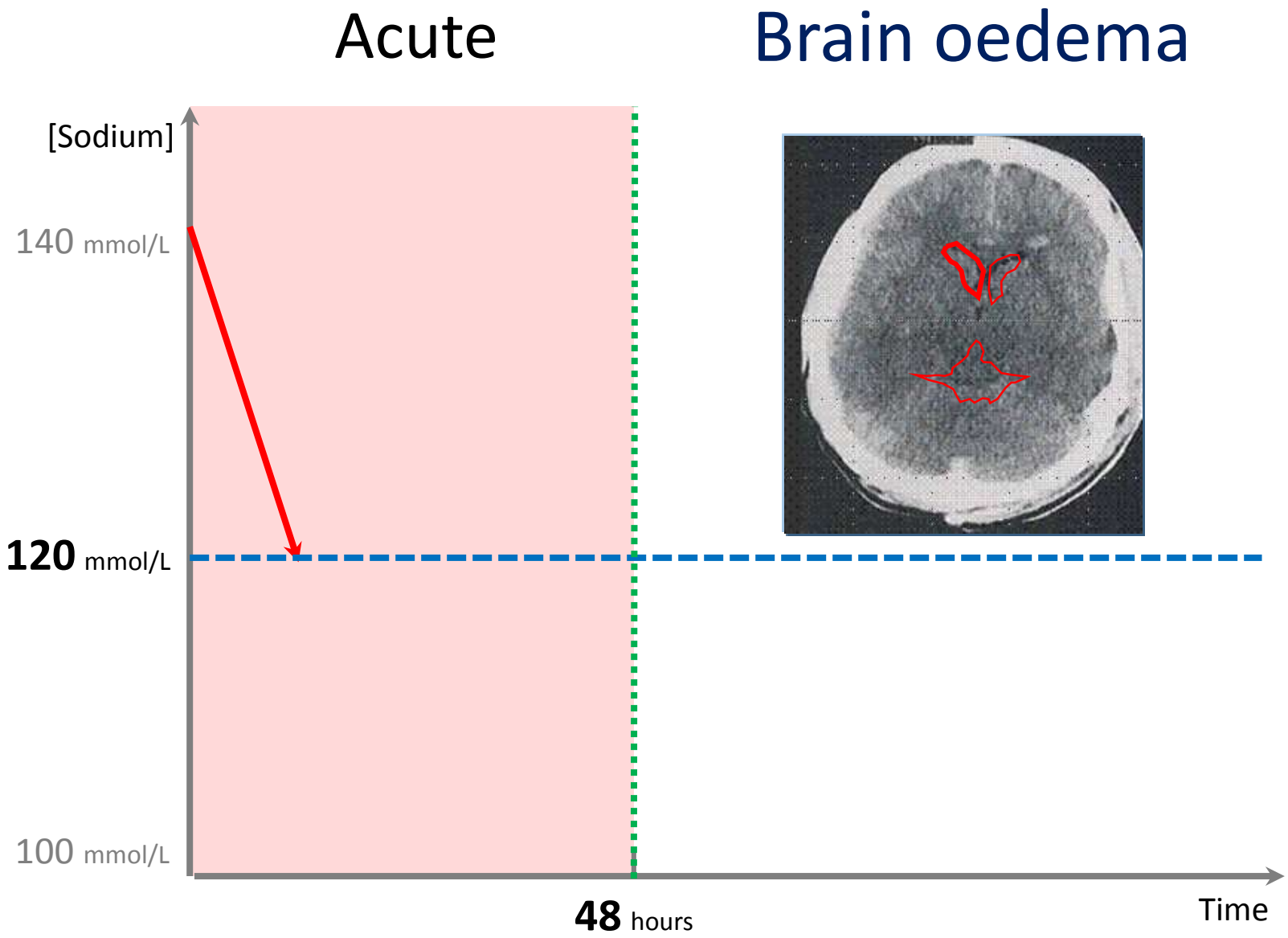
5 Challenges

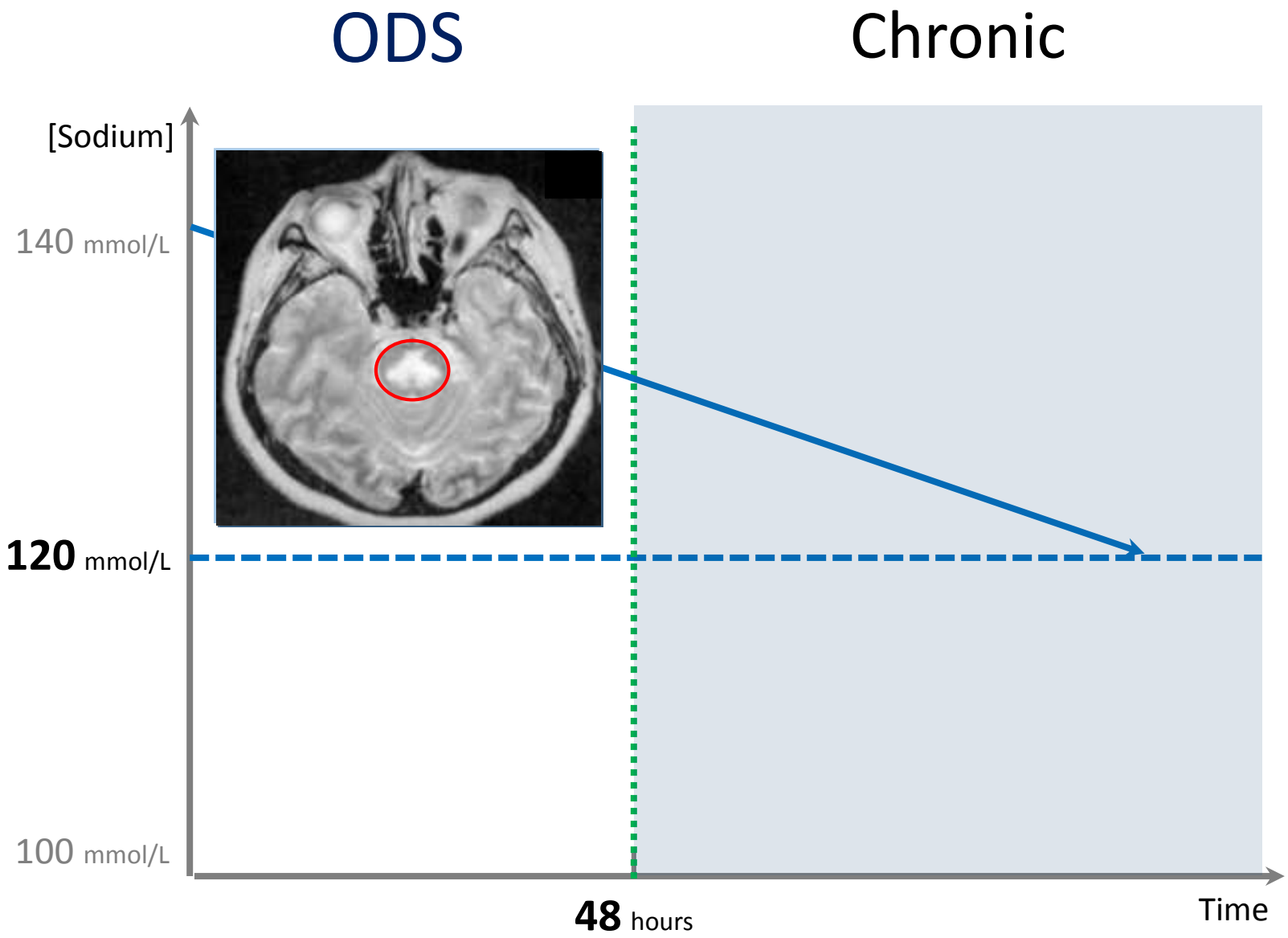
$$120 \frac{mmol}{L}$$

Treat now?

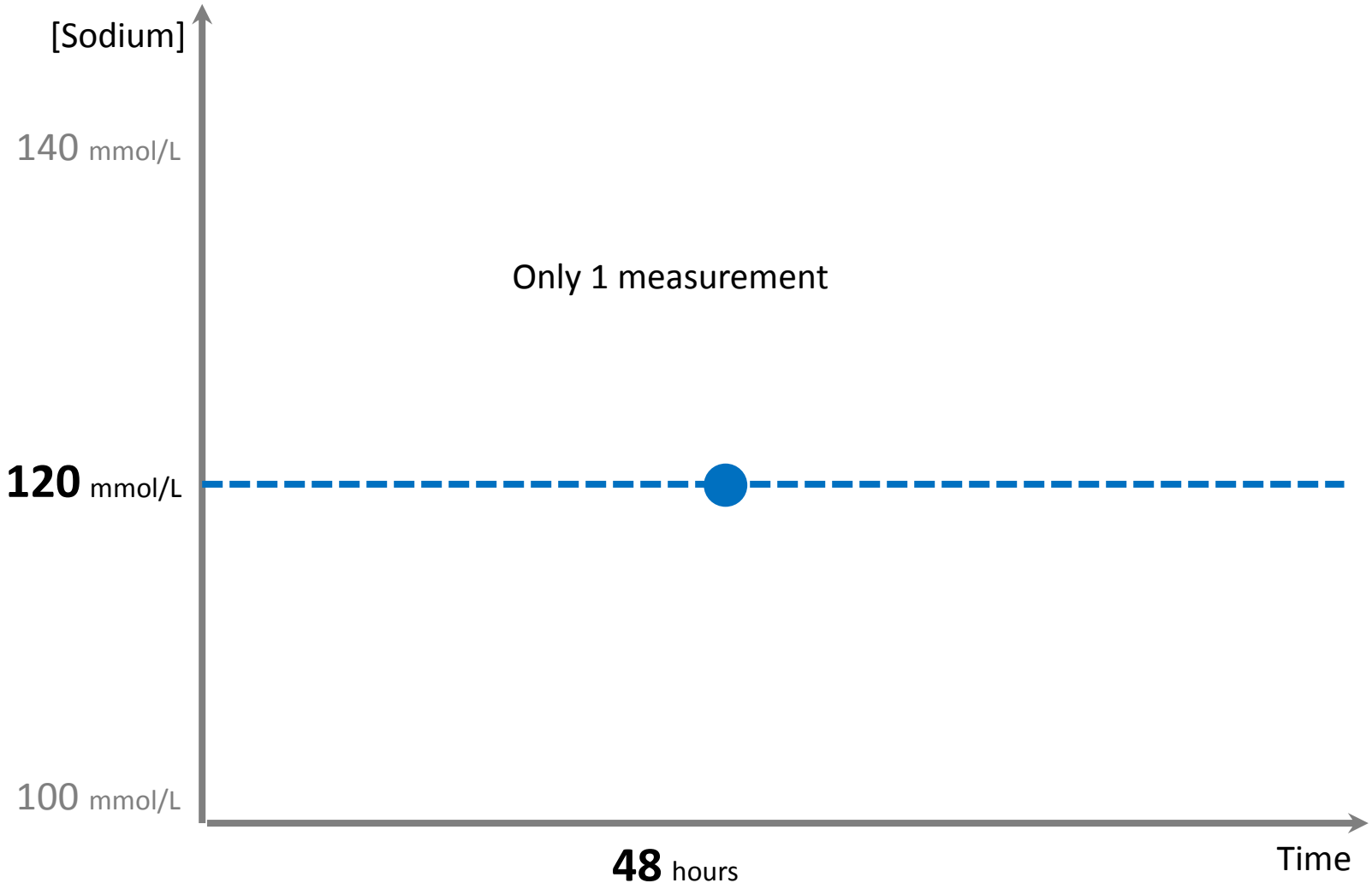
Depends...

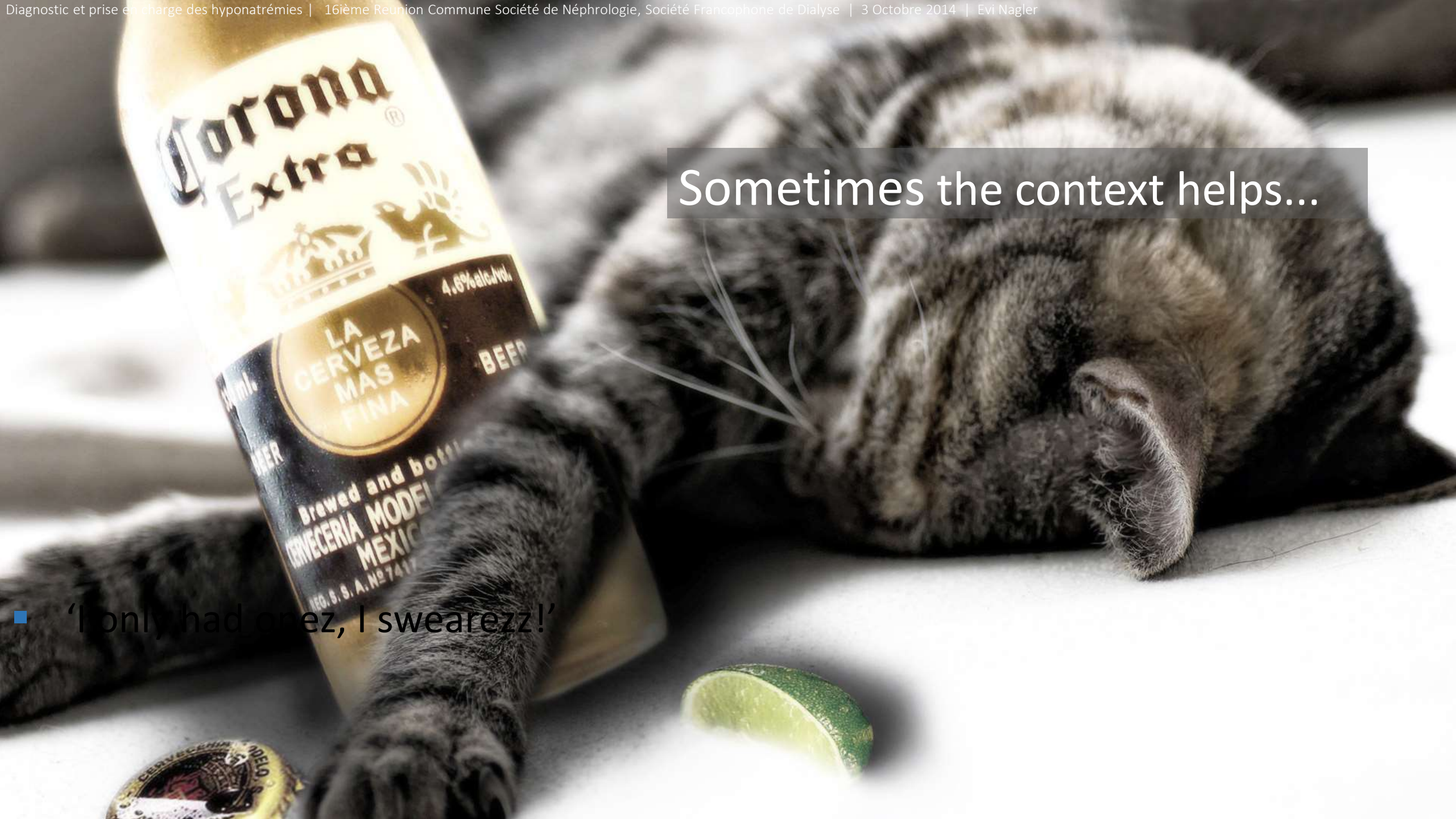

Acute
Brain oedema
[Sodium]
140 mmol/L
120 mmol/L
100 mmol/L
48 hours
Time

Depends...


ODS
Chronic
[Sodium]
140 mmol/L
120 mmol/L
100 mmol/L
48 hours
Time

Problem...

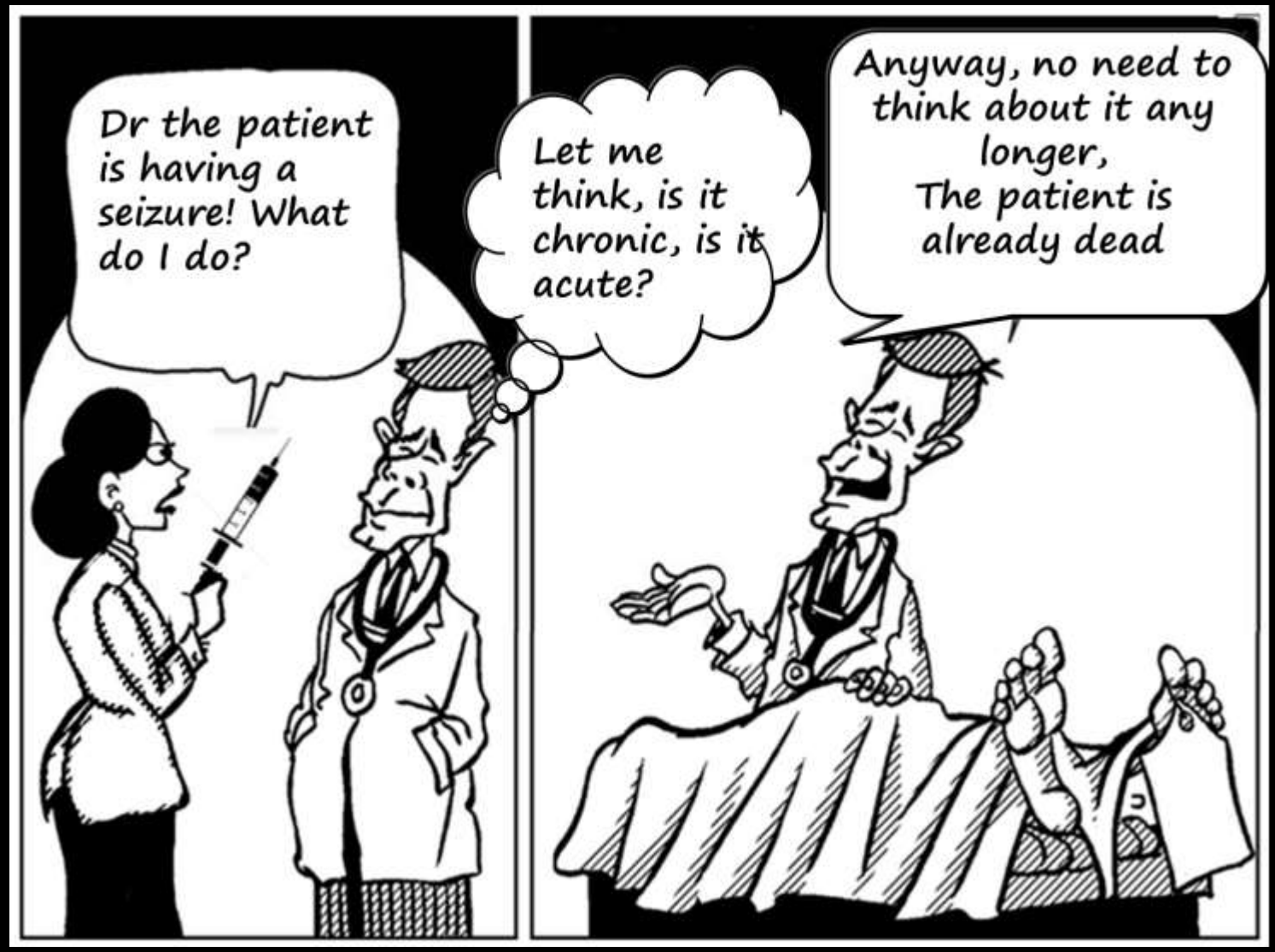

[Sodium]
140 mmol/L
Only 1 measurement
120 mmol/L
100 mmol/L
48 hours
Time



Sometimes the context helps…

- ‘I only had one ez, I swearezz!’

But mostly we are left in the dark...



Symptoms

Severe

- Coma
- Seizures
- Deep somnolence
- Cardiorespiratory distress
- Vomiting

Moderately severe

- Headache
- Confusion
- Nausea

Severe symptoms

Osmotic demyelination in chronic hyponatraemia

Brain oedema in acute hyponatraemia

Severe

Coma

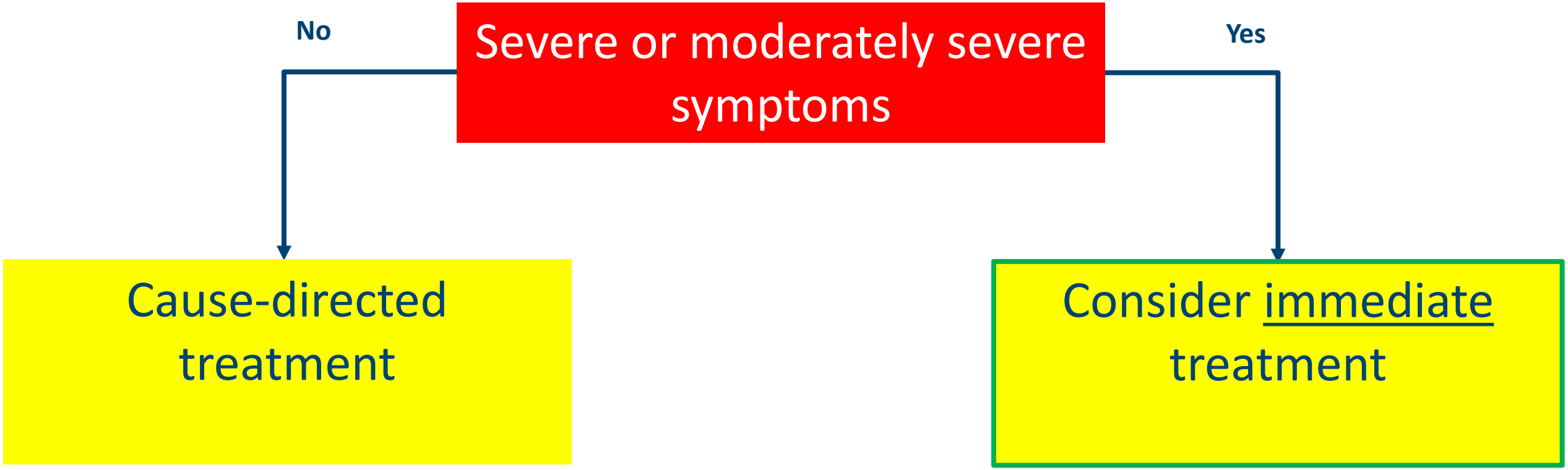
Seizures

Deep somnolence

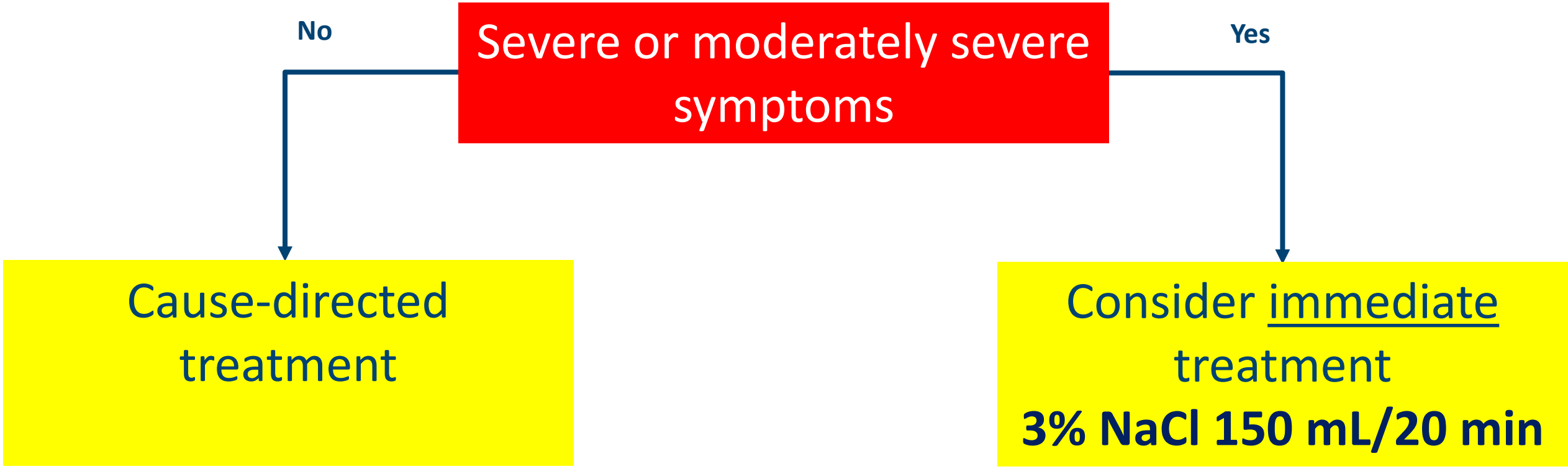
Cardiorespiratory distress

Vomiting

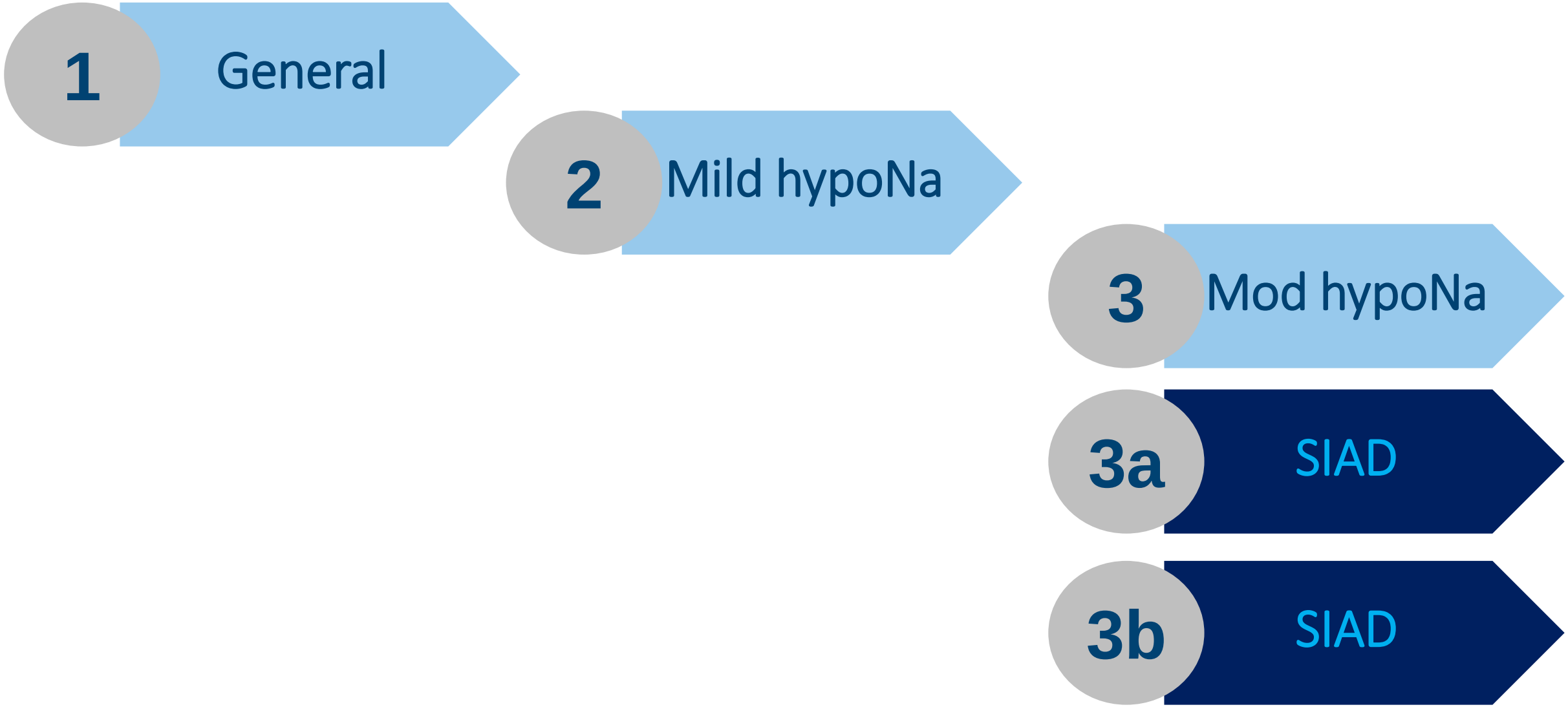
Severe/moderately severe symptoms



Severe/moderately severe symptoms



Chronic hyponatraemia without symptoms



Chronic hyponatraemia without symptoms

1 General

- Stop non-essential fluids & contributing factors (not graded)
- We recommend cause-directed treatment (1D)

Chronic hyponatraemia without symptoms

2 Mild hypoNa

- We suggest against treatment with sole aim of increasing serum Na^+ concentration (2C)

Chronic hyponatraemia without symptoms

3 Mod hypoNa

- We recommend to avoid increase in [Na^+] >10 mmol/L during first 24 hrs (1D)
- We recommend to avoid increase [Na^+] >8 mmol/L per 24 hrs thereafter (1D)
- We recommend to check [Na^+] 6 hourly until stable on stable treatment (1D)

Chronic hyponatraemia without symptoms

3a SIAD

- We suggest fluid restriction as first line treatment (2D)
- We suggest the following be considered as second-line treatments (2D)
  - increasing solute intake with urea 0.25-0.50 g/kg
  - combination of low dose loop diuretic & oral sodium chloride
- We recommend against lithium or demeclocycline (1D)

Chronic hyponatraemia without symptoms

3b SIAD

- We do not recommend VRAs in moderate hyponatraemia (1C)
- We recommend against VRAs in profound hyponatraemia (1C)

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CHINSTRAPS

‘One size fits all... lying bastards...’


Opinion
Experience
Best Practice
Evidence

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Ghent University Hospital

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Nephrology Dialysis & Transplantation

Eur J Endocrinol

Intensive Care Medicine