ISAM 2026 / ROTTERDAM

Emerging fentanyl analogues and veterinary tranquillisers

Urine drug screening gaps and clinical responses in Alberta, Canada

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CLINICAL MESSAGE

A negative routine urine drug screen cannot rule out exposure to emerging opioids, sedatives or adulterants.

Evolving drug supply

Fentanyl analogues. Compounds such as p-fluorofentanyl and bromofentanyl may have variable detection across assays.

Other synthetic opioids. Nitazenes and emerging orphines may require targeted analytical methods.

Sedative admixtures. Xylazine and medetomidine are non-opioid alpha-2 agonists that may contribute to prolonged sedation.

What routine screening misses

Panel dependent. Fentanyl tests vary in cross-reactivity with analogues.

Often absent from routine panels. Nitazenes, xylazine, medetomidine and many adulterants need specific testing.

Clinical interpretation. A screen supports assessment but does not identify every drug in a changing supply.

Clinical clues

Mixed overdose. Bradycardia, hypotension or prolonged sedation after opioid reversal raise concern for an added sedative.

Levamisole exposure. In someone using cocaine, unexplained fever with neutropenia warrants urgent assessment for possible agranulocytosis.

Other adulterants. Caffeine and phenacetin may also appear in drug samples. Detection alone does not establish causation.

Clinical response

1 Stabilize. Assess airway, breathing, oxygenation and glucose. Provide supportive care.

2 Give naloxone. Treat suspected opioid toxicity and repeat as clinically indicated. Naloxone does not reverse alpha-2 sedation.

3 Investigate. Discuss targeted LC-MS/MS or high-resolution mass spectrometry with the laboratory when results could change care or surveillance.

4 Communicate. Share unusual patterns with toxicology, drug checking and public health partners.

PRACTICE IMPLICATION

Treat the patient’s presentation first. Use targeted testing and local surveillance to interpret unexpected findings and inform harm reduction.

TEAM AND AFFILIATIONS

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SELECTED REFERENCES

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