

- Urine metabolites for cannabinoids have higher concentrations than serum metabolites allowing for longer detection times.
- You can have false positives on the drug screen, so if the case is concerning, you should send confirmatory testing which is done by GC/mass spectrometry.
  - Ibuprofen has been reported to cause a false positive for marijuana on a drug screen, for example.
- If parents smoke marijuana around the child (passive exposure), it is highly unlikely that the urine test will be positive because it lacks sensitivity.
- There is limited research about breastfeeding and THC exposure in infants.
  - THC is stored in fat. It is possible that exposure through breastfeeding may occur.
  - Due to lack of studies, it is unknown whether the child's urine drug screen could be positive for THC through this type of exposure.
- In a child who has a one-time ingestion, the urine drug toxicology screen would be positive for approximately 3-7 days.

**Related content:**

CorePendum: Cannabis Toxicity and Poisoning: <https://www.emrap.org/corependium/chapter/rec1Woa3JM0g9hPwq/Cannabis-Toxicity-and-Poisoning>

EM:RAP 2018 May: Pediatric Pearls Marijuana and Kids:  
<https://www.emrap.org/episode/emrap2018may/pediatricpearls1>

**References:**

Wang GS, et al. [Association of unintentional pediatric exposures with decriminalization of marijuana in the United States. Ann Emerg Med 2014 Jun;63\(6\):684-9.PMID: 24507243](https://pubmed.ncbi.nlm.nih.gov/24507243/)  
<https://pubmed.ncbi.nlm.nih.gov/24507243/>

## Blast Crisis

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- Blast crisis: The presence of more than 20% blasts in the peripheral blood or the bone marrow resulting in an elevated white blood cell count.
  - The elevated blasts crowd out other cell lines in the marrow and high peripheral white blood cell (WBC) counts can cause end-organ hypoperfusion.
  - It is a late stage progression in chronic myelogenous leukemia.
- Common complications of blast crisis:
  - Anemia and thrombocytopenia
    - Platelet transfusion thresholds:
      - < 50k with bleeding, consider transfusion
      - < 20k regardless of bleeding, consider transfusion

- There is added concern for spontaneous intracranial hemorrhage with platelets < 20k.
- Anemia transfusion thresholds:
  - Transfusion can worsen leukostasis symptoms.
  - Transfuse only if markedly symptomatic, hemodynamic instability, or if ongoing bleeding.
- Infection
  - Patients who are immunocompromised and high-risk for infectious processes.
  - Patients who are functionally neutropenic regardless of the white blood cell count.
  - **Broad-spectrum antibiotic coverage is recommended if the patient either has a focal infection or you have a high suspicion for infection.**
- Leukostasis (also known as hyperviscosity syndrome)
  - Sludging of blood due to high white blood cell counts leads to poor microvascular flow resulting in cardiopulmonary and neurologic sequelae.
  - Typically occurs at white blood cell count > 50,000/ $\mu$ L.
  - Common presentations: confusion or altered mental status, ischemic stroke symptoms, congestive heart failure, pulmonary edema
  - Treatment
    - Supportive care which includes ABCs, IV, O<sub>2</sub>, monitor
    - Leukapheresis
    - Induction chemotherapy
    - Remember that diuresis can worsen leukostasis.
    - Have a low threshold to start antibiotics
- Tumor Lysis Syndrome
  - Results from rapid cell death and release of intracellular contents (potassium, phosphate, etc) into the serum.
  - Patients are often referred to the ED from their oncologist or clinic for abnormal lab values found on standard lab monitoring.
  - Symptoms are typically vague and include:
    - Fever
    - Fatigue
    - Generalized weakness
    - Nausea/vomiting

- Clinical criteria:
  - Acute kidney injury
  - Cardiac dysrhythmias
  - Seizures
- Laboratory criteria
  - Hyperkalemia
  - Hyperphosphatemia
  - Hyperuricemia
  - Hypocalcemia
- Treatment
  - Administer intravenous fluids.
  - Avoid calcium supplementation.
    - Hypocalcemia results from binding with phosphate
    - Administering calcium can form precipitates that result in worsening renal failure.
    - Give calcium for dysrhythmias due to hyperkalemia, but otherwise, hold until phosphate levels decrease.
  - Uricase (rasburicase): an enzyme that breaks uric acid down into compounds that can be excreted.
- **It is Important to remember that patients can have more than one problem.**
  - They can have leukostasis and pneumonia, leukostasis and a central nervous system infection.
  - Avoid premature diagnostic closure by thoroughly working the patient up.