

Medication Analysis Report

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Analysis System: MedicationAnalyzer (Comprehensive Drug Analysis)

Analysis Cost: \$0.0043

Duration: 200.0s

Medication Overview

Name:

paracetamol

Drug Class: Non-opioid analgesic and antipyretic (p-aminophenol derivative)

Analysis Confidence: 0.75/1.00

Mechanism of Action

Exact mechanism not fully elucidated. Primarily inhibits cyclooxygenase (COX) enzymes in the central nervous system, possibly a COX-3 variant, reducing prostaglandin E2 synthesis and hypothalamic fever response. Weak peripheral COX-1/COX-2 inhibition. Additional actions include activation of descend...

Pharmacokinetics Summary

- **Absorption:** Rapidly absorbed from gastrointestinal tract; oral bioavailability 70-90%; onset of analgesia 15-60 ...
 - **Metabolism:** Hepatic phase II conjugation predominant: glucuronidation (50-60%), sulfation (25-35%); minor CYP2E1...
 - **Elimination:** Primarily renal excretion of metabolites (90-100% within 24 hours); <5% excreted unchanged in urine.
 - **Half-Life:** 1.5-3 hours in adults (prolonged to 4-8 hours in hepatic impairment or neonates).
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Key Safety Information

Interactions Summary

SEVERE Drug Interactions (1)

- **Ethanol (chronic heavy use)**
- Effect: Hepatotoxicity, potentially fulminant liver failure...
- Management: Avoid concurrent use; if necessary, use minimal effective paracetamol dose and monitor LFTs closely...

Moderate Drug Interactions (4)

- **Warfarin:** Elevated INR, increased bleeding risk...
- **Lamotrigine:** Decreased lamotrigine plasma concentrations, reduced efficacy...
- **Probenecid:** Increased paracetamol exposure, risk of toxicity...

Evidence-Based Recommendations

For complete details including all interactions, dosing adjustments, and comprehensive recommendations, see the detailed report.

DISCLAIMER:

This analysis is for educational and research purposes only. Always consult qualified healthcare providers for medication decisions.