

Medication Analysis Report

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Analysis System: MedicationAnalyzer (Comprehensive Drug Analysis)

Analysis Cost: \$0.0384

Duration: 27.9s

Medication Overview

Name:

Paracetamol

Drug Class: Non-opioid analgesic and antipyretic

Analysis Confidence: 0.95/1.00

Mechanism of Action

Paracetamol primarily exerts its effects centrally by inhibiting cyclooxygenase (COX-1 and COX-3) enzymes, reducing prostaglandin synthesis in the brain and spinal cord, which accounts for its analgesic and antipyretic properties. It has minimal peripheral anti-inflammatory activity due to negligibl...

Pharmacokinetics Summary

- **Absorption:** Paracetamol is rapidly and nearly completely absorbed from the small intestine following oral admini...
 - **Metabolism:** Hepatic metabolism predominates via three main pathways: glucuronidation (50-60%), sulfation (25-35%...)
 - **Elimination:** Primarily renal excretion of inactive metabolites (glucuronide and sulfate conjugates account for >9...)
 - **Half-Life:** 1.5-3 hours in healthy adults; extended to 5-8 hours in hepatic impairment, up to 10 hours in neonates, and 3-4 hours in renal impairment.
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Key Safety Information

BLACK BOX WARNINGS

1. Severe liver injury may occur with overdose (>4 g/day) or concomitant use with other paracetamol-containing products.
2. Risk of acute liver failure, transplantation, or death; early signs may be absent.
3. Do not exceed recommended dose; chronic use >3 g/day increases hepatotoxicity risk.

Contraindications (3 identified)

- **Known hypersensitivity to paracetamol** (N/A)
 - **Severe active hepatic impairment (Child-Pugh C)** (N/A)
 - **G6PD deficiency** (N/A)
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Interactions Summary

SEVERE Drug Interactions (1)

- **Chronic alcohol**
- Effect: Enhanced hepatotoxicity risk....
- Management: Avoid chronic alcohol; limit dose to 2 g/day....

Moderate Drug Interactions (3)

- **Warfarin**: Elevated INR and bleeding risk with doses >2 g/day....
- **Probenecid**: Prolonged half-life and increased toxicity risk....
- **Lamotrigine**: Decreased lamotrigine efficacy....

Food Interactions (2)

- **Alcohol (acute/chronic)**: Separate by 4-6 hours if possible; counsel abstinence....
 - **High-fat meal**: No adjustment needed....
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Evidence-Based Recommendations

1. N/A

- N/A...

2. N/A

- N/A...

3. N/A

- N/A...

4. **N/A**

- N/A...

**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.