

# Medication Analysis Report

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**Analysis System:** MedicationAnalyzer (Comprehensive Drug Analysis)

**Analysis Cost:** \$0.0384

**Duration:** 27.9s

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## Medication Overview

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**Name:**

Paracetamol

**Drug Class:** Non-opioid analgesic and antipyretic

**Analysis Confidence:** 0.95/1.00

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## Mechanism of Action

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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...

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# Pharmacokinetics Summary

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- **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

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### 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

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## 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

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1. **N/A**

- N/A...

2. **N/A**

- N/A...

3. **N/A**

- N/A...

4. **N/A**

- N/A...

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**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.