

Medication Analysis Report

Generated:

2025-12-28 13:43:22

Analysis System: MedicationAnalyzer (Comprehensive Drug Analysis)

Medication Overview

Name:

Paracetamol

Drug Class: Non-opioid analgesic and antipyretic

Analysis Confidence: 0.95/1.00

Mechanism of Action

Paracetamol selectively inhibits cyclooxygenase (COX-2) more than COX-1 in the central nervous system, reducing prostaglandin synthesis and thereby mediating analgesic and antipyretic effects. It exhibits weak peripheral anti-inflammatory activity compared to NSAIDs. The exact central mechanism may ...

Pharmacokinetics Summary

- **Absorption:** Paracetamol is rapidly and nearly completely absorbed from the small intestine after oral administra...
 - **Metabolism:** Primarily hepatic metabolism occurs via phase II conjugation: 50-60% to paracetamol-glucuronide, 25-...
 - **Elimination:** Elimination is predominantly renal, with 90-100% of dose excreted as metabolites in urine within 24 ...
 - **Half-Life:** 1.5-3 hours in healthy adults; 3-8 hours in hepatic impairment; up to 10-15 hours in neonates or severe overdose.
-

Key Safety Information

BLACK BOX WARNINGS

1. Severe liver injury may occur with therapeutic doses (>4000 mg/day) or overdose; acute liver failure can lead to transplantation or death.
2. Do not exceed recommended dose; multiple products may contain paracetamol leading to inadvertent overdose.

Contraindications (3 identified)

- **N/A** (N/A)
 - **N/A** (N/A)
 - **N/A** (N/A)
-

Interactions Summary

SEVERE Drug Interactions (1)

- **Alcohol (chronic use)**
- Effect: Enhanced hepatotoxicity risk even at therapeutic doses....
- Management: Avoid concurrent use or limit paracetamol to 2 g/day; counsel on abstinence....

Moderate Drug Interactions (3)

- **Warfarin:** Elevated INR, increased bleeding risk....
- **Probenecid:** Increased paracetamol levels and half-life....
- **Isoniazid:** Potential hepatotoxicity....

Food Interactions (2)

- **High-fat meals:** No dose adjustment; administer without regard to meals....
- **Alcohol (acute ingestion):** Separate by >4 hours if possible; avoid in chronic users....

Recommendations

What TO DO:

1. **Educate on total intake from all sources (e.g., combination products).**

- Reduces risk of hepatotoxicity based on pharmacokinetic data and overdose epidemiology....

2. IV NAC 150 mg/kg over 1 hour, then 50 mg/kg over 4 hours, then 100 mg/kg over 16 hours.

- Replenishes glutathione to detoxify NAPQI; Rumack-Matthew nomogram guides need....

3. AUDIT-C questionnaire; cap at 2000 mg/day if positive.

- CYP2E1 induction increases NAPQI; limited evidence supports dose cap....

What NOT TO DO:

- 1. Do not combine multiple paracetamol-containing products without dose calculation.**
- 2. Do not use long-term (>14 days) without LFT monitoring.**
- 3. Do not administer to patients with G6PD deficiency routinely.**

Debunked Claims:

- 1. Paracetamol is completely safe with no risk of liver damage at any dose.**

- Therapeutic misadventure causes 50% of acute liver failure cases....
- 2. Paracetamol cures the common cold or flu.**

- Symptomatic relief only; no antiviral activity...
- 3. Daily paracetamol prevents hangovers.**

- No prophylactic efficacy; increases hepatotoxicity with alcohol....

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.