

Medication Analysis Report

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Analysis System: MedicationAnalyzer (Comprehensive Drug Analysis)

Analysis Cost: \$0.0521

Duration: 45.6s

Medication Overview

Name:

Paracetamol (Acetaminophen)

Drug Class: Miscellaneous analgesics (non-opioid analgesic and antipyretic)

Analysis Confidence: 0.95/1.00

Mechanism of Action

The precise mechanism is not fully understood. Paracetamol is believed to inhibit prostaglandin synthesis in the central nervous system and work peripherally to block pain impulse generation. It produces antipyresis through action on the hypothalamic heat-regulating center. Unlike NSAIDs, it does no...

Pharmacokinetics Summary

- **Absorption:** Rapidly absorbed by passive diffusion in the small intestine with approximately 80% bioavailability...
 - **Metabolism:** Primarily hepatic metabolism via glucuronidation and sulfation pathways. A small proportion is metab...
 - **Elimination:** Primarily renal excretion of metabolites. Less than 5% is excreted unchanged in urine.
 - **Half-Life:** Approximately 2-3 hours in adults with normal hepatic and renal function
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Key Safety Information

BLACK BOX WARNINGS

1. Hepatotoxicity: Risk of severe liver damage and acute liver failure with overdose. Maximum daily dose must not exceed 4000 mg in adults. Paracetamol is the leading cause of acute liver failure in Western countries and responsible for approximately 50 deaths annually in Australia.
2. Combination products: Patients must be aware of paracetamol content in combination products to avoid unintentional overdose from multiple sources.

Contraindications (3 identified)

- **Severe hepatic impairment** (N/A)
 - **Known hypersensitivity to paracetamol/acetaminophen** (N/A)
 - **Active liver disease** (N/A)
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Interactions Summary

SEVERE Drug Interactions (1)

- **Chronic alcohol consumption**
- Effect: Significantly increased risk of hepatotoxicity even at therapeutic doses...
- Management: Limit maximum daily dose to 2000 mg. Counsel patients on risks. Consider alternative analgesics....

Moderate Drug Interactions (3)

- **Warfarin:** Increased INR and bleeding risk with prolonged use (>1-2 weeks) of regular parac...
- **Carbamazepine, phenytoin, phenobarbital (enzyme inducers):** Increased risk of hepatotoxicity, reduced analgesic efficacy...
- **Isoniazid:** Increased hepatotoxicity risk...

Food Interactions (2)

- **Food (general):** May be taken with or without food. Take with food if gastric upset occurs....
- **Chronic alcohol consumption:** Limit paracetamol dose to maximum 2000 mg daily. Avoid regular use in chronic alcohol consumers....

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.