SydPath
ST VINCENT'S PATHOLOGY

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ITRACONAZOLE DRUG MEASUREMENT INFORMATION SHEET

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<tr><td>Itraconazole</td><td>- Broad-spectrum triazole antifungal.
- Active against: yeasts including endemic fungi, Candida spp., Aspergillus spp., Histoplasma sp.</td></tr>
<tr><td>When to consider TDM</td><td>All patients - due to highly variable bioavailability. Consider TDM when starting or stopping interacting drugs.</td></tr>
<tr><td>Pharmacokinetics (may be altered in critical illness and organ dysfunction)</td><td>
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<tr><td>Absorption</td><td><u>Oral capsule and tablet:</u> 55% *bioavailability increased by food and gastric acidity
<u>Oral solution:</u> 75% *better absorbed in fasting state.</td></tr>
<tr><td>Protein binding</td><td>99.8%</td></tr>
<tr><td>Clearance</td><td>Clearance decreases at higher doses due to saturable metabolism.
<u>Metabolism:</u>
- Hepatic; extensive. Primarily CYP3A4. - Also inhibits CYP 3A4.
<u>Renal:</u>
- <1% unchanged</td></tr>
<tr><td>Elimination t½</td><td>Variable, dose dependent due to saturable pharmacokinetics. That is, dose increases lead to more than proportional increases in concentration.</td></tr>
<tr><td>Time to steady state</td><td>Longer with higher doses and concentrations because of saturable clearance. Generally reaches targeted ranges within first 2 weeks.</td></tr>
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<tr><td>Sample Collection Time</td><td>Collect at steady state: Trough sample
* Initial sampling should be within first 5-7 days of therapy, however may not be at steady state, therefore repeated sampling required. Generally reaches targeted ranges within first 2 weeks.</td></tr>
<tr><td>Requesting and Collection</td><td>Collect 4 mL in a purple top (EDTA) tube (no gel separator). Important information required on request form: 1) Time and date of last dose 2) Time since last dose change/commencement 3) Time of blood sample collection 4) Dosing regimen.</td></tr>
<tr><td>Handling and Transport</td><td>Sample must be delivered to laboratory within 1 hour of collection. If not delivered to the lab within 2 hours of collection, centrifuge, separate plasma and freeze within 3 hours of collection.</td></tr>
<tr><td>Availability</td><td>Test generally performed twice a week, Specific days and timing should be confirmed with SydPath.</td></tr>
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Reference Intervals	**Suggested Therapeutic Target:** [Prophylaxis & treatment] Trough: >500 - 1000 µg/L. **Toxic Range:** Not well defined.
Contact	Patient Results: (02) 8382 9100 Further information: www.sydpath.com.au - Test Database
Instructions for Referring laboratories	Centrifuge, separate plasma within 3 hours of collection, store and transport plasma frozen.
Document Approval	07/2017
References	1. Ashbee HR, Barnes RA et al. Therapeutic drug monitoring (TDM) of antifungal agents: guidelines from the British Society for Medical Mycology. J Antimicrob Chemother. 2014;69(5):1162-76. 2. E Myers, ED Ashley. Antifungal Drug Therapeutic Monitoring: What are the Issues? Curr Clin Micro Rpt (2015) 2:55- 66 3. Micromedex Solutions [Database]. Greenwood Village, Colorado: Truven Health Analytics 2017. Available from: www.micromedexsolutions.com.