

Precision Dosing in Renal, Hepatic & Pediatric Care — Hands-on

Build a strong conceptual framework for precision dosing in special populations. This module focuses on how renal function, hepatic impairment and growth or maturation in children influence drug exposure, and how to combine PK principles, organ function markers and clinical reasoning to adjust doses safely.

Precision Dosing in Renal, Hepatic & Pediatric Care

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Session 1

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Foundations of Precision Dosing & Special Populations

Why precision dosing matters for vulnerable groups

[narrow therapeutic index medicines](#) [toxicity and under exposure risks](#) [variability in PK and PD across patients](#)

Key PK concepts for dose adjustment (conceptual)

[clearance, volume, half life themes](#) [maintenance vs](#)

loading dose ideas | time to steady state intuitions

Framework for thinking about special populations

organ function and maturation | co medication and
comorbidities | clinical context and risk balance

Session 2

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Renal Impairment: Concepts & Dose Adjustment

Renal handling of drugs and PK consequences

filtration, secretion, reabsorption themes | changes in
clearance in kidney disease | accumulation and
toxicity risk

Markers of kidney function and staging (high level)

creatinine based estimates conceptually | glomerular
filtration rate categories | dialysis and residual
function ideas

Thinking through renal dose adjustment steps

assess how much renal route matters | reduce dose vs
extend interval themes | monitoring levels and clinical
response

Session 3

Fee: Rs 14800 | Apply Now

Hepatic Impairment & Complex Comorbidities

Hepatic metabolism, transport and PK implications

phase one and phase two pathways idea | high
extraction vs low extraction drugs | protein binding
and biliary excretion themes

Markers and staging of liver disease (conceptual)

laboratory markers and clinical scores idea **impact on drug disposition and safety** **when to avoid or use with caution themes**

Handling overlapping renal, hepatic and other comorbidities
stepwise risk assessment and prioritization
simplified dose bands for practice **role of therapeutic drug monitoring conceptually**

Session 4

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Pediatric Dosing & Integrated Case Workshop

Principles of pediatric dosing and maturation

weight and surface area based concepts **ontogeny of organ function ideas** **adherence and formulation considerations**

Bringing renal, hepatic and pediatric themes together

case style dose adjustment reasoning **communication of dose changes to teams** **defining monitoring and follow up plans**

Deliverables: precision dosing case note and slide summary

structured written recommendation **one slide visual for teaching rounds** **template for future special population cases**