Risk-lowering Strategy in Neonatal Intravenous Fluid Therapy: An IV Fluid Calculator

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Introduction

Individualized requirements

Meticulous calculations

Risk of overdose, extravasation etc.

How to make up D12.5?
500ml D10... + __ ml Na+? K+?
Too concentrated for peripheral line?

BW? Which fluid?
Fluid __ml/kg/day?
Na+ __mmol/kg/day?
K+ __mmol/kg/day?
Ca2+ __mmol/kg/day?
Objectives

To invent and implement an online “IV Fluid Calculator”, aiming to:

1. Improve safety and minimize errors in IVF therapy in neonates
2. Standardize practice of IVF prescription in the Neonatal Team of Queen Mary Hospital
From Manual Calculation to IV Fluid Calculator

Doctor decides IVF regimen

BW: 2.04 kg
Na⁺: 1mmol/kg/day
K⁺: 2mmol/kg/day
Ca²⁺: 0.5mmol/kg/day

D10: 90ml/kg/day

Pharmacist: Verification

Nurse: Prepare IV fluid

D10 500ml + 5.85% NaCl 5.6ml
+ 14.9% KCl 5.6ml
+ 10% Ca Glu 12.7ml
Results and Outcome

• IV Fluid Calculator launched in HKWC Intranet since Nov 2018
• Routinely used by Paediatricians in Neonatal Unit, QMH
Thank You!

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