

INTRAVENOUS SOLUTION THERAPY SIMPLIFIED RATIONALISATION OF FORMULATIONS AND PACKS

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OPSOMMING

Die Adviserende Komitee oor Gesondheidsake het 'n Nasionale Intraveneuse Ingiëting Rasionaliseringskomitee aangestel om beskikbare intraveneuse oplossings te ondersoek en aanbevelings te maak ten einde pasiëntveiligheid te bevorder, behandeling te vereenvoudig en groter ekonomie te bewerkstellig. Die aanbevelings van die komitee maak voorsiening vir 'n vermindering van die verskeidenheid formules van 103 na 41 en houers van meer as 70 na 21.

Die Komitee vra vir kommentaar, kritiek en advies voordat die aanbevelings geïmplementeer word.

INTRODUCTION

The Health Matters Advisory Committee, a statutory body constituted under the *Health Act 63 of 1977*, appointed a National Intravenous Infusion Rationalisation Committee, consisting of experts from the medical and pharmaceutical professions to investigate and make recommendations regarding the availability and use of intravenous solutions in South Africa with the view to promoting patient safety, simplifying therapy for the clinicians, and providing economy for both the producer and the consumer. When the recommendations are implemented the range of formulations will be reduced from 103 to 41 (See Table 1) and containers from over 70 to 21. Considerable modification will result in improvements and ultimate standardisation of administration sets and packs.

Comment, criticism and advice will be welcomed by the Committee.

NATIONAL COMMITTEE'S MANDATE

A Government appointed National Committee was given the following mandate:

To rationalise and standardise for economic reasons:

- (a) The number of formulations of intravenous fluids henceforth to be the only available solutions for use in the Republic of South Africa.
- (b) The number of container sizes

— which will be limited.

- (c) The number of administration sets.
- (d) To attempt, for logical reasons, at grouping the available formulations to meet various clinical indications.

RECOMMENDATIONS

Volumes

1 000 ml only will be adopted as standard size.

1 000 ml pack to accept a 100 ml overfill and the 200 ml to accept a 50 ml overfill in order to accommodate admixtures as required. Certain imported solutions (e.g. Intralipid) to be acceptable as supplied e.g. in 500 ml.

Pack material

Preference will be given to clear *plastic* containers wherever possible and glass containers will no longer be used except in those cases where the contents is incompatible with *plastic*.

Markings and labels

All intravenous solutions to be labelled in black or dark blue except that red labels or markings will signify potentially hazardous solutions such as:

- 5% saline solution;
- sterile water;
- 50% dextrose solution;
- peritoneal dialysis solutions;
- solutions for cystoscopy or irrigation;

— amino acid and intralipid solutions.

Sterile pyrogen-free solutions which are not for intravenous use are preferably to be packed in rigid, screw cap, easy-pour bottles which are not compatible with standardised intravenous administration sets.

Energy substrates

1. Carbohydrate: Dextrose is considered to be the safest, and to replace all other sugars such as fructose and invert sugar. Higher alcohols will no longer be acceptable.
2. Fats: One intravenous fat emulsion, that is 10% and 20% Intralipid is currently acceptable.
3. Amino acids: only synthetic laevo-rotatory amino acid solutions will be acceptable at the moment but acceptable specialised new solutions are anticipated in the near future and will need registration with the M.C.C. Local manufacturers of intravenous solutions have agreed not to produce formulations without consultation with and agreement of the Rationalisation Committee. It is not the intention of the Committee to stifle development and progress in the intravenous fluids field but merely to keep costs to a minimum and to eliminate outdated unnecessary duplicating solutions.

TABLE 1 SPECIAL INTRAVENOUS SOLUTIONS

INDICATIONS	FLUID	VOL- UME	PACK	Millimoles/Litre								Gram/litre			Kilo- joules/ litre	
				Na	K	Ca	Mg	Cl	Lact	HCO ₂	HPO ₄	Dex- trose	Fat	Amino Acid		
I. Resuscitation (Blood, plasma loss)	Ringer Lactate + 5% Dextrose	1 000 200	Plastic	131	5,4			107	29				50			840
	Balanced Electrolyte So- lution (“PlasmaLyte B”, “Balsol”)	1 000 200	Glass	130	4		1,5	109			28					
	Ringer Lactate	1 000 200	Plastic	131	5,4			107	29							
	Sodium Chloride 0,9% + 5% Dextrose	1 000 200	Plastic	154				154					50			840
	Rehydration fluid	1 000 200	Plastic	77				77					50			840
II. Rehydration (Water deprivation excess sweating)	Dextrose 5%	1 000	Plastic									50			840	
	Fifth Normal Saline (Paediatric)	200	Plastic	34				34				50			840	
	Maintenance solution	1 000 200	Plastic	36	25		2,5	65				100			1680	
III Maintenance (Short term I/V sustenance)	Electrolyte No. 2	1 000 200	Plastic	62	25		3	50	25		7	100			1680	
	Darrows half strength (Paediatric)	500 200	Plastic	61	17			51	27			50			840	
	Neonatal Maintenance	200	Plastic	30	15	2,5	1,3	25	20			100			1680	
	Replacement solution	1 000	Plastic	103	15			118				50			840	
IV Replacement (Gastrointestinal loss)	Darrows half strength (Paediatric)	500 200	Plastic	61	17			51	27			50			840	
	Sodium Bicarbonate 4,2%	500	Glass	500							500					
V Special Solutions (Correction of Specific Serum abnormalities)	Sodium Chloride 0,45%	1 000 200	Plastic	77					77							
	Sodium Chloride 5% (Red Label)	200	Plastic	855					855							
	Intralipid 10%	500	Glass										100		4600	
IV Hyperalimentation	10%	100	Glass													
	Intralipid 20%	100	Glass										20		8350	
	20%	100	Glass													
	Dextrose 20%	500 in 1000	Glass									100			1680	
	Dextrose 50%	500 in 1000	Glass									500			8360	
	Dextrose 50%	500	Glass													
	Synthetic L-Amino acid —4.6% solution with electrolyte (red label)	500	Glass												55	
	Synthetic L-Amino acid —4.6% solu- tion without Electrolytes (red label)	500	Glass													
	Synthetic L-Amino acid —7-10% solu- tion with Electrolytes (red label)	500	Glass												85	
	Synthetic L-Amino acid —7-10% solu- tion without Electrolytes (red label)	500	Glass													
VII Other	Sterile water for injection (red label)	200	Plastic													
	Dextran 40—10% in Saline	500	Glass	154					154							
	Dextran 70-10% in Saline	500	Plastic	154					154							

STANDARDISATION OF ADMINISTRATION SETS

This will be the subject of a future report.

This Committee wishes to thank Prof. H.A. Grové, Director of Transvaal Hospital Services for organising this investigation, as well as the South African manufacturing firms of intravenous fluids, whose impartial contributions made our task much easier. Comments, criticism and advice will be welcomed by the Committee.

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SYMPOSIUM PAPERS

SIMPOSIUM REFERATE

The papers delivered at the symposia held in celebration of the **25th anniversary of the degree course in Nursing at the University of Pretoria**, are available from the publication section of the S.A. Nursing Association (Private Bag X105, Pretoria, 0001). These addresses are recommended for stimulating ideas on nursing in the South African context.

The papers are published in the language in which they were delivered and appear in three parts:

NURSING PREPAREDNESS — R3,95

Includes preparedness in the home such as home accidents and emergency nutrition as well as preparedness during disaster situations which deals with the clinical evaluation and transportation of patients and how to handle various types of injuries.

CREATIVITY IN NURSING EDUCATION — R3,00

These papers deal with creativity in giving and evaluating nursing education. They were written by prominent South African nurses.

THE QUALITY OF PATIENT CARE — R3,15

The importance of the following in providing quality patient care are discussed: educational objectives, standards of patient care, measuring quality, job satisfaction, creative nursing administration and research.

The price of a complete set of papers is R10,00.

DIE referate van die simposia, wat gehou is ter viering van die **25ste verjaardag van die graadkursus in verpleegkunde aan die Universiteit van Pretoria**, is by die publikasieafdeling van die S.A. Verpleegstersvereniging, (Privaatsak X105, Pretoria, 0001), beskikbaar.

Die referate word gepubliseer in die taal waarin hulle gelewer is en verskyn in drie dele.

VERPLEEGKUNDIGE PARAAATHEID — R3,95

Sluit paraatheid in die huis soos tuisongelukke en noodvoeding in, asook paraatheid tydens 'n noodsituasie wat handel oor die kliniese evaluering en vervoer van pasiënte sowel as die hantering van verskillende tipes beserings.

KREATIWITEIT IN VERPLEEGONDERWYS — R3,00

Die referate handel oor vindingrykheid in die gee en evaluering van verpleegonderrig en is gelewer deur vooraanstaande Suid-Afrikaanse verpleegopvoedkundiges.

DIE GEHALTE VAN PASIËNTSORG — R3,15

Die belang van die volgende vir die lewering van 'n goeie gehalte van pasiëntorg is bespreek: opvoedkundige doelwitte; pasiëntorg-standaarde; kwaliteitsmetting; werksbevrediging; vindingryke verpleegadministrasie en navorsing.

Die prys vir 'n volledige stel van die referate is R10,00.