

**WAHT-PHA-013**

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## GUIDELINES ON THE USE OF ST MARK'S SOLUTION IN PATIENTS WITH A SHORT BOWEL

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

**Introduction**

This guideline provides information for prescribers and nursing staff on how to administer St Mark's Solution in patients who have a short bowel.

**This guideline is for use by the following staff groups:**

**Lead Clinician(s)**

Rachel Hodkinson

Lead Surgical  
Pharmacist, WRH

Approved by Medicines Safety Group on:

5<sup>th</sup> June 2014

Guideline reviewed and approved by Accountable Director on:

13<sup>th</sup> February 2015

Review date:

6<sup>th</sup> February 2021

This is the most current document and is to be used until a revised version is available

**Key amendments to this guideline**

Date	Amendment	By:
05/11/11	Guideline approved	Medicines Safety Group
10/01/14	Additional comment on page 3 suggesting the use of oral rehydration salts if St Mark's solution is not tolerated.	Caroline Gibson
13/02/2015	Guideline approved with no amendments for a further 2 years	Keith Hinton
August 2017	Document extended for 6 months as per TMC paper Approved 22 <sup>nd</sup> July 2015	TMC
December 2017	Document extended for 3 months as per TLG recommendation	TLG
March 2018	Document extended for 3 months as approved by TLG	TLG
June 2018	Document extended for 3 months as per TLG recommendation	TLG
February 2019	Change in lead clinician. No further amendments required	Rachel Hodkinson

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# Guidelines on the Use of St Mark's Solution

## Introduction

St Mark's solution is a glucose-electrolyte solution, also known as an oral rehydration solution which is used in the management of Short Bowel Syndrome. Short Bowel Syndrome occurs as a result of extensive intestinal resection or functional abnormality (chronic intestinal failure) and reduces the small bowel's capacity to absorb fluid and nutrients. This can lead to dehydration, weight loss, malabsorption of fluids, and electrolyte imbalance. One of the main aims of management is to increase fluid uptake and improve absorption. Most patients will require fluid, electrolyte and nutrient supplementation, and some patients may require intravenous nutrition or intravenous fluids to maintain health and growth. Oral rehydration solutions are important in the maintenance of adequate fluid balance as they help decrease the need for intravenous nutrition or intravenous fluids.

## Guideline

Short Bowel Syndrome is when a patient has less than 200cm of small bowel remaining. Jejunum-colon patients (those patients who have had a jejunoileal resection and jejunoileal anastomosis), and jejunostomy patients (those who have had a jejunoileal resection, colectomy and formation of stoma), are the most commonly encountered patients who present with intestinal failure.

If a patient with Short Bowel Syndrome becomes dehydrated, and there is marked sodium and water depletion, St Mark's Solution is indicated. In patients with a high output jejunostomy, the total amount of oral hypotonic fluid (water, tea, coffee, fruit juices, alcohol or dilute salt solutions) must be restricted and also hypertonic fluids (fruit juices, coca-cola and most commercial sip feeds) to less than 500mls a day. To make up the rest of their fluid requirement, the patient is encouraged to drink St Marks solution (containing 90mmol/L sodium). Patients are required to sip St Mark's Solution during the day, and they may make it more palatable if it is chilled and is sipped through a straw or if a little fruit cordial is added. Patients usually are required to drink 2 to 3 Litres a day, but this may vary. They are advised to make up 1 Litre at a time. If there is any solution remaining at the end of the day this should be discarded and fresh solution should be made up the next day.

Composition of St Marks's Solution	Where to obtain
20g (6 level 5ml spoonfuls) glucose	Pharmacy
3.5g (1 level 5ml spoonful) salt	Kitchens
2.5g (1 heaped 2.5ml spoonful) sodium bicarbonate	Pharmacy
<b>Add to 1 Litre of water</b>	

Aim for Stoma output of <1500ml/day, and urine output >1000ml/day.

If a patient has less than 100cm of jejunum remaining, then long-term parenteral saline is usually required to maintain sodium and water balance. If a patient has less than 75cm of intact jejunum will require long-term parenteral nutrition to maintain their nutritional status.

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St Mark's solution should be prescribed on the inpatient medication chart, where the dose to be given is the volume of St Mark's to be administered over a 24 hour period. The dose frequency should be stated as "over 24 hours" and a circle around all of the administration times should indicate that the patient should continuously drink the solution throughout the day. However if a patient does not tolerate St Marks's solution it may be possible to try oral rehydration salts. A suggested dose would be 10 sachets diluted in 1 litre of water, drank throughout the day.

### Summary

St Mark's Electrolyte Mix is a type of oral rehydration solution used in the management of short bowel syndrome. It has to be made daily using the above formula.

### Monitoring Tool

STANDARDS	%	CLINICAL EXCEPTIONS
St Marks solution only used in appropriate patients	100	NONE
Appropriate monitoring of patient carried out	100	NONE
St Mark's solution administered appropriately	100	NONE

### References

- Ward, N. Clinical nutrition – physiology and treatment of intestinal failure. Hospital Pharmacist 2005; 12: 9 – 12.
- Nightingale J, Woodward J M on behalf of the Small Bowel and Nutrition Committee of the British Society of Gastroenterology. [www.gutjnl.com](http://www.gutjnl.com) 2006: iv1 – iv12.

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### CONTRIBUTION LIST

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#### Circulated to the following CD's/Heads of dept for comments from their directorates / departments

Name	Directorate / Department
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#### Circulated to the chair of the following committee's / groups for comments

Name	Committee / group
Members of the Nutrition Steering Committee	Nutrition Steering Committee

### Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

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		Yes/No	Comments
1.	<b>Does the policy/guidance affect one group less or more favourably than another on the basis of:</b>		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Transgender	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
	• Disability - learning disabilities, physical disability, sensory impairment & mental health problems	No	
2.	<b>Is there any evidence that some groups are affected differently?</b>	No	
3.	<b>If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?</b>	No	
4.	<b>Is the impact of the policy/guidance likely to be negative?</b>	No	
5.	<b>If so can the impact be avoided?</b>	NA	
6.	<b>What alternatives are there to achieving the policy/guidance without the impact?</b>		None known
7.	<b>Can we reduce the impact by taking different action?</b>	No	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

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**Supporting Document 2 – Financial Impact Assessment**

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	<b>Title of document:</b>	<b>Yes/No</b>
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval