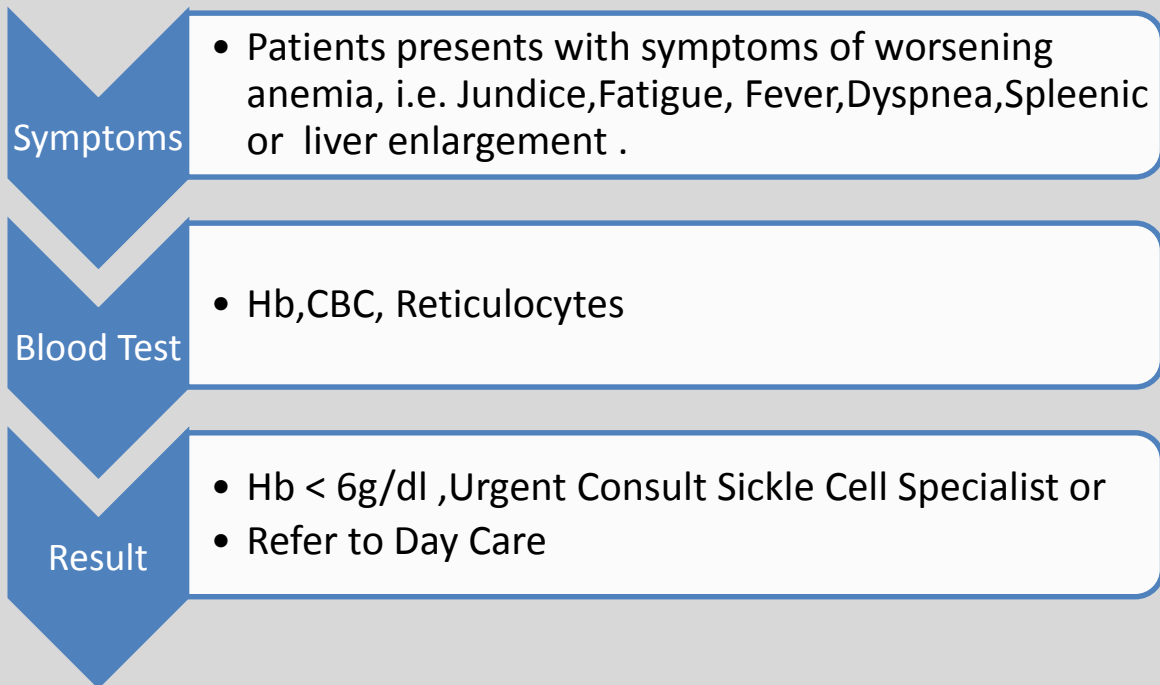


Pain Management in Patients with Sickle Cell Disease				
v  Acute Pain Vaso Occlusive Crisis			v  Chronic Pain	
Yes		No	Major Cause ➔	v
Admit Day Care ➔	v Complications Aplastic Crisis Priapism Neurological Event Sepsis Fever Pulmonary Abdominal Orthopaedic	v Ibuprofen Fluids Home Pain Management		Avascular Necrosis Hip/Shoulder Chronic Bone Pain Priapism Neuropathic Pain Hyperasthesia
	No	➔		
		v  Pain Improvement  v  Yes  v  Close Follow-up	v  Medical History Pain Managements Assess effect on Activity Functional Status Quality of Life Depression Screening v	
			Ref to Pain Management v Orthopaedic Behavioural Health Diet	

## ANEMIA IN PATIENTS WITH Sickle Cell Disease



## **Haemoglobinopathy Screening**

### **Primary Screening: Haemoglobin electrophoresis**

Haemoglobin electrophoresis is a test that measures the different types of haemoglobin in the blood. It also looks for abnormal types of haemoglobin. Normal types of haemoglobin include: Haemoglobin (Hgb) A, the most common type of hemoglobin in healthy adults. Haemoglobin (Hgb) F, fetal haemoglobin.

### **Repeat Haemoglobin electrophoresis**

### **HPLC: High-performance liquid chromatography**

HPLC testing is an analytical chemistry procedure to separate, detect, and quantify drugs and their metabolites within various formulations, vehicles, and biological matrices.

### **DNA confirmation; Conformational heterogeneity**

## Routine Test

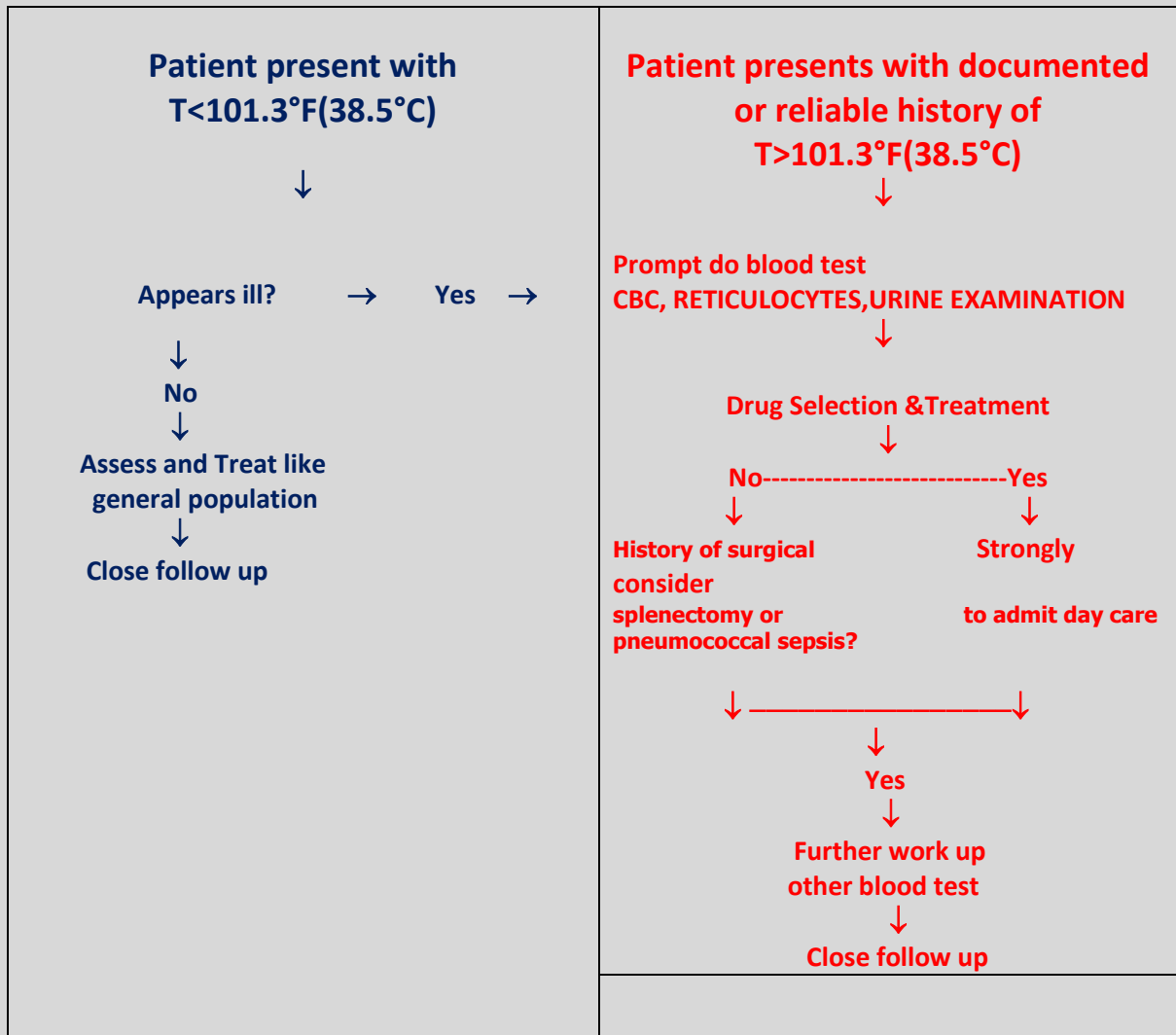
Hb RBC Neu Lym WBC Platelet ESR CRP D-Dimer LDH	
Reticulocytes	RC Corrected RC RPI IRF
Liver Function	Total Billirubin Direct Billirubin Indirect Billirubin SGOT SGPT
S.Elyctrolite	Na+ Ka+ Cl+
S.Creatinine RBS HbA1c Urine examination	
Vital	
B.P BT SpO2 PR Weight	
Radiological	
X-Ray	Chest / Hip
USG	Ab / Pelvic

<b>MRI</b>	<b>Brain</b>
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## Vaso-occlusive Management

<b>Is patient experiencing a VOC?</b>	➤	<b>No</b>	➤	<b>Treat specific complaints</b>
✕				
<b>Yes</b>				
✕				
<b>Does the patient have any supports for individual management?</b>	➤	<b>Yes</b>	➤	<b>Follow pain management</b>
✕				
<b>No</b>				
✕				
<b>Does history of multiple clinic visits? Does his/her Spo2/PR/BP/RR abnormal? Any pathological investigation? Provided Pain management?</b>	➤	<b>Yes</b>	➤	<b>Follow Pain Management and refer to day care</b>
✕				
<b>No</b>				
✕				
<b>Evaluate Pain relief every 15-30 minutes after the required treatment</b>	➤	<b>No</b>	➤	<b>Admit emergency care</b>
✕				
<b>Yes</b>				
✕				
<b>Continue Medication for five days with pathological reports and vital observation</b>				

## Fever with Sickle Cell Disease



## DHANVANTARI - AYUSH TREATMENT PROTOCOL FOR

### Major Pain Syndromes in Patients with Sick Cell Disease

<b>Standard Hb Value</b>	<ul style="list-style-type: none"> <li>➤ 6 months to 5 years- Hb &lt; 11.0 g/dl</li> <li>➤ 6 years to 18 years Hb &lt; 12 g/dl</li> <li>➤ 18 years male Hb &lt; 13 g/dl</li> <li>➤ 18 years female Hb &lt; 12 g/dl</li> </ul>		
<b>Manageable Hb Value without BT</b>	<ul style="list-style-type: none"> <li>➤ 6 months to 5 years- Hb &lt; 6.0 g/dl</li> <li>➤ 6 years to 18 years Hb &lt; 6.0 g/dl</li> <li>➤ 18 years male Hb &lt; 6.0 g/dl</li> <li>➤ 18 years female Hb &lt; 6.0 g/dl</li> </ul>		
<b>VOC</b>	<b>Mild</b>	<b>Modreat</b>	<b>Severe</b>
<b>SpO2</b>	> 94% in RA	90-94% in RA	<90 % in RA
<b>RR</b>	<24/min	24-30/min	>30/min
<b>Signs / Symptoms</b>	<b>Ayurvedic</b>	<b>Ayurvedic</b>	<b>DAYCARE / ICU</b>  <b>O2 Therapy</b>  <b>BloodTranfusion</b>  <b>EMERGENCY</b>  <b>MANAGMMENT</b>
Acute Pain Syndrome	AHP	AHP +ACU	
Chronic Pain Syndrome	AHP	AHP +ACU	
Acute chest syndrome	AHP	AHP +ACU+ACI	
Arthritis	AHP	AHP-ACT	
Cholecystitis	AHP	AHP+ACI	
Hand-foot syndrome	AHP	AHP +ACU	
Aseptic (avascular) necrosis	AHP	AHP +ACU	
Painful episodes Leg ulcers	AHP	AHP	
Priapism	AHP	AHP+DN	
Vertebral body collapse	AHP	AHP+ACT	
Right upper quadrant syndrome	AHP	AHP-ACT	
Splenic sequestration	AHP	AHP+ACI	
Fever	AHP	AHP	
Meningitides	AHP	AHP	
Pneumonia	AHP	AHP	
Osteomyelitis	AHP	AHP+ACU	
Urinary tract infection	AHP	AHP+ACI	
Transient red cell aplasia (TRCA)	AHP	AHP+ACU	
Transient Ischemic Attack (TIA) and Brain Infraction	AHP	AHP+DN+ACU	

#### Acronyms:

**AHP**-AYU-HM PREMIUM [2-0-2]

**ACU**-ACUPEN [2-0-2]

**AH**-AYU-H [2-0-2]

**DN**-D-NEURO [2-0-2]

**ACT**-ACUTEC [2-0-2]

**ACI**-ACIDEZ [1-0-1]

## INTIGREATED AYUSH TREATMENT PROTOCOL FOR Major Pain Syndromes in Patients with Sickle Cell Disease

Symptoms	Ayurvedic	Allopathic
Acute Pain Syndrome	AHP +ACU	VSR+LIV+ Neb+O2
Chronic Pain Syndrome	AHP +ACU	DDT+FA
Acute chest syndrome	AHP +ACU+ACI	VSR+LIV+ Neb+O2
Arthritis	AHP-ACT	DDT
Cholecystitis	AHP+ACI	VSR+RD+CIP
Hand-foot syndrome	AHP +ACU	VSR+MC
Aseptic (avascular) necrosis	AHP +ACU	DDT+MC+Cal
Painful episodes Leg ulcers	AHP	DDT+FA
Priapism	AHP+DN	DDT+MC
Vertebral body collapse	AHP+ACT	GN+MC+Cal+DDT
Right upper quadrant syndrome	AHP-ACT	DDT+FA
Splenic sequestration	AHP+ACI	FA+RD
Fever	AHP	DO
Meningitides	AHP	As per pathological reports
Pneumonia	AHP	As per pathological reports
Osteomyelitis	AHP+ACU	DDT+MC+Cal
Urinary tract infection	AHP+ACI	As per pathological reports
Transient red cell aplasia (TRCA)	AHP+ACU	FA+ORS+O2
Transient Ischemic Attack (TIA) and Brain Infraction	AHP+DN+ACU	GN+FA+DDT+O2 +Enx

### Acronyms:

**AHP**-AYU-HM PREMIUM

**ACU**-ACUPEN

**AH**-AYU-H

**ACT**-ACUTEC

**DN**-D-NEURO

**ACI**-ACIDEZ

**FA**-Folvite Active

**DDT**-Dolonex-DT

**VSR**-Voveran SR

**RD**-Rantac D

**GN**-Gabaneuron-300

**CIP**-Ciprofloxacin 250/500

**Liv**-Livofloxacin 250/500

**MC**-Myconite-D

**Cal**-Calcinol

**Enx**-Enoxaparin Sodium-40/60{Rosinox-60}

**Neb**-



Developed by: Dhanvantari Clinic Ayurveda Health Care & Research Centre, Vyara-394650  
[www.sickleherbocare.com](http://www.sickleherbocare.com)

**IV-**

**ORS-**

**DO – Dolo-650**