



Edema/Ascites

Heart Failure Symptom Management Guideline For adults, age 19 and older in British Columbia

Edema is common in Heart Failure (HF) and can cause significant discomfort and even cellulitis. In end stage HF, edema may be even more pronounced with ascites. Management of edema and ascites involves non-pharmacological, pharmacological, and procedural interventions along with self-management strategies, and should be tailored to the patient's goals of care.

Approach to Managing Edema/Ascites

Assessment

- A comprehensive assessment must include a physical, psychosocial, and patient environment assessment, medications, review of labs and diagnostics. Assessment needs to determine the cause, effect and impact on quality of life for the patient.
- Use of the [Palliative Performance Scale \(PPS\)](#) and [Edmonton Symptom Assessment System \(ESAS\)](#) to assess and monitor symptomatic burden.
- Edema and ascites should be assessed according to history and physical examination.
- Symptoms of ascites include: abdominal pain or pressure, early satiety, nausea and vomiting, dyspnea, orthopnea.
- Physical exam findings include elevated jugular venous pressure, increased abdominal girth, shifting dullness, or fluid wave.
- Depending on the goals of care, diagnostic tests could include blood work such as, electrolytes, albumin, blood counts, coagulation test and/or along with abdominal imaging.

Edema/Ascites Tips

Identify and treat the underlying cause as appropriate.

Consider:

- Exacerbating conditions such as: poor nutrition, liver or renal disease.
- Medications which provoke fluid retention such as: NSAIDs, steroids, vasodilators and calcium channel blockers.

Non-pharmacological Approach

- Counsel patient on importance of salt and fluid restriction.
- Elevation of legs to assist with fluid return.
- Light support hose may also be used if they have sufficient cardiac output
 - *Use of compression stockings may worsen HF in some cases -use with caution.
- In conditions of malnourishment, review protein intake.
- Focused prevention of skin breakdown and early wound care consultation if available.

Interventions:

- Assess patient's prognosis and goals prior to considering interventions such as paracentesis.
- If paracentesis not indicated, manage pain or dyspnea from ascites with medication.

Possible interventions:

- For ascites: ultrasound/paracentesis
 - Given the invasiveness of the procedure and burden of recurrent visits, a full discussion of risks and benefits should accompany this procedure.
 - Paracentesis can provide temporary symptomatic relief; the following needs to be considered,
 - Usually requires repeat drainage.
 - The cost of a long- term tunnelled catheter is not paid for by MSP at this time.



Pharmacological Approach

<http://circ.ahajournals.org/content/120/25/2597.full#T4>

Name	Dose forms	Dose	Comments
furosemide	IV, PO, SC (maximum of 20mg sub q in one site)	20 mg daily or bid to a maximum of 600 mg <i>For treatment of exacerbation:</i> <i>Step 1</i> – Initiate or double the current dose for three consecutive days or until an accumulated weight loss of 2.5-5 kg. (Doses > 80 mg should be split into twice daily dosing) <i>Step 2</i> – After 3 days, if not at target weight, increase dose by 50-100%. <i>Step 3</i> – After a further 3 days, and if not at target weight can add Metolazone (see below for dosing)	Not necessary to reduce the dose with change in route.
metolazone	PO	2.5 to 10 mg daily used in combination with loop diuretic (given 30 minutes prior to loop diuretic). Can be given in divided doses twice daily	Start with daily dosing of metolazone for 3 days or 3 times per week dosing (Mon, Wed, Fri) and monitor response closely including renal function and electrolytes.
spironolactone (mineralocorticoid receptor antagonists)	Oral	Edema: 12.5 mg to 25 mg per day Ascites: 25 mg per day to 100 mg per day; typical dose for ascites is 100 mg per day spironolactone with 40mg per day furosemide.	In cases of ascites, it is important to give higher doses of mineralocorticoid receptor antagonists to enable diuretic action. Monitor electrolyte and renal function.
For refractory or persistent symptoms, recommend consultation with a palliative care physician or the Palliative Care Consultation Line Telephone: 1-877-711-5755			