

# Nutrition Assessments

## Malnutrition Screening Tool

### Malnutrition Screening Tool (MST)

**STEP 1: Screen with the MST**

**1** Have you recently lost weight without trying?

No	0
Unsure	2

**If yes, how much weight have you lost?**

2-13 lb	1
14-23 lb	2
24-33 lb	3
34 lb or more	4
Unsure	2

Weight loss score:

**2** Have you been eating poorly because of a decreased appetite?

No	0
Yes	1

Appetite score:

Add weight loss and appetite scores

**MST SCORE:**

**STEP 2: Score to determine risk**

**MST = 0 OR 1  
NOT AT RISK**

Eating well with little or no weight loss

If length of stay exceeds 7 days, then rescreen, repeating weekly as needed.

**MST = 2 OR MORE  
AT RISK**

Eating poorly and/or recent weight loss

Rapidly implement nutrition interventions. Perform nutrition consult within 24-72 hrs, depending on risk.

**STEP 3: Intervene with nutritional support for your patients at risk of malnutrition.**

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Ferguson, M et al. Nutrition 1999 15:458-464

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www.abbottnutrition.com/rdtoolkit



Source: "Malnutrition Screening Tool," Abbott Laboratories, 2013, [http://static.abbottnutrition.com/cms-prod/abbottnutrition.com/mg/Malnutrition%20Screening%20Tool\\_FIN\\_AL.pdf](http://static.abbottnutrition.com/cms-prod/abbottnutrition.com/mg/Malnutrition%20Screening%20Tool_FIN_AL.pdf); Oncology Roundtable interviews and analysis.



# Nutrition Assessments

## Scored Patient-Generated Subjective Global Assessment (cont.)

The remainder of this form is to be completed by your doctor, nurse, dietitian, or therapist. Thank you.

### Scored Patient-Generated Subjective Global Assessment (PG-SGA)

<b>Worksheet 1 - Scoring Weight (Wt) Loss</b> To determine score, use 1 month weight data if available. Use 6 month data only if there is no 1 month weight data. Use points below to score weight change and add one extra point if patient has lost weight during the past 2 weeks. Enter total point <table style="width:100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Wt loss in 1 month</th> <th style="text-align: center;">Points</th> <th style="text-align: left;">Wt loss in 6 months</th> </tr> <tr> <td>10% or greater</td> <td style="text-align: center;">4</td> <td>20% or greater</td> </tr> <tr> <td>5-9.9%</td> <td style="text-align: center;">3</td> <td>10 - 19.9%</td> </tr> <tr> <td>3-4.9%</td> <td style="text-align: center;">2</td> <td>6 - 9.9%</td> </tr> <tr> <td>2-2.9%</td> <td style="text-align: center;">1</td> <td>2 - 5.9%</td> </tr> <tr> <td>0-1.9%</td> <td style="text-align: center;">0</td> <td>0 - 1.9%</td> </tr> </table> Numerical score from Worksheet 1 <input style="width: 50px;" type="text"/>	Wt loss in 1 month	Points	Wt loss in 6 months	10% or greater	4	20% or greater	5-9.9%	3	10 - 19.9%	3-4.9%	2	6 - 9.9%	2-2.9%	1	2 - 5.9%	0-1.9%	0	0 - 1.9%	<b>Additive Score of the Boxes 1-4 (See Side 1)</b> <input style="width: 50px;" type="text"/> <b>A</b> <b>5. Worksheet 2 - Disease and its relation to nutritional requirements</b> All relevant diagnoses (specify) _____ Primary disease stage (circle if known or appropriate) I II III IV Other _____ One point each: <input type="checkbox"/> Cancer <input type="checkbox"/> AIDS <input type="checkbox"/> Pulmonary or cardiac cachexia <input type="checkbox"/> Presence of decubitus, open wound, or fistula <input type="checkbox"/> Presence of trauma <input type="checkbox"/> Age greater than 65 years <input type="checkbox"/> Chronic renal insufficiency Numerical score from Worksheet 2 <input style="width: 50px;" type="text"/> <b>B</b>
Wt loss in 1 month	Points	Wt loss in 6 months																	
10% or greater	4	20% or greater																	
5-9.9%	3	10 - 19.9%																	
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0-1.9%	0	0 - 1.9%																	

<b>6. Work Sheet 3 - Metabolic Demand</b> Score for metabolic stress is determined by a number of variables known to increase protein & calorie needs. The score is additive so that a patient who has a fever of > 102 degrees (3 points) and is on 10 mg of prednisone chronically (2 points) would have an additive score for this section of 5 points <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%;">Stress</td> <td style="width:25%;">none (0)</td> <td style="width:25%;">low (1)</td> <td style="width:25%;">moderate (2)</td> <td style="width:25%;">high (3)</td> </tr> <tr> <td>Fever</td> <td>no fever</td> <td>&gt;99 and &lt;101</td> <td>≥101 and &lt;102</td> <td>≥102</td> </tr> <tr> <td>Fever duration</td> <td>no fever</td> <td>&gt;72 hrs</td> <td>72 hrs</td> <td>&gt; 72 hrs</td> </tr> <tr> <td>Corticosteroids</td> <td>no corticosteroids</td> <td>low dose</td> <td>moderate dose</td> <td>high dose steroid</td> </tr> <tr> <td></td> <td></td> <td>&lt;10mg prednisone equivalents/day</td> <td>≥10 and &lt;30mg prednisone equivalents/day</td> <td>&gt;30mg prednisone equivalents/day</td> </tr> </table> Numerical score from worksheet 3 <input style="width: 50px;" type="text"/> <b>C</b> Even short term use of corticosteroids can adversely impact protein status and muscle mass See <a href="http://www.pt-global.org">www.pt-global.org</a> for prednisone equivalents chart and metric and additional language version (as available)	Stress	none (0)	low (1)	moderate (2)	high (3)	Fever	no fever	>99 and <101	≥101 and <102	≥102	Fever duration	no fever	>72 hrs	72 hrs	> 72 hrs	Corticosteroids	no corticosteroids	low dose	moderate dose	high dose steroid			<10mg prednisone equivalents/day	≥10 and <30mg prednisone equivalents/day	>30mg prednisone equivalents/day	Fever: Score fever intensity or duration, whichever is greater. (99°F = 37.2°C 101° = 38.3° and 102° = 38.9°) Numerical score from worksheet 3 <input style="width: 50px;" type="text"/> <b>C</b>
Stress	none (0)	low (1)	moderate (2)	high (3)																						
Fever	no fever	>99 and <101	≥101 and <102	≥102																						
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<b>7. Worksheet 4 - Physical Exam</b> Physical exam includes a subjective evaluation of 3 aspects of body composition: fat, muscle, & fluid status. Since this is subjective, each aspect of the exam is rated for degree of deficit. Muscle deficit impacts point score more than fat deficit. Definition of categories: 0 = no deficit, 1+ = mild deficit, 2+ = moderate 3+ = severe <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"><b>Muscle Status:</b></td> <td style="width:30%;"><b>Fluid Status:</b></td> <td style="width:40%;"></td> </tr> <tr> <td>clavicles (pectoralis &amp; deltoids)</td> <td>0 1+ 2+ 3+</td> <td rowspan="5" style="vertical-align: top; padding: 5px;">                     These are examples of areas that can/should be considered in determining loss/deficit (or excess fluid). RELAX... One does NOT have to assess all of these to have a global sense for loss or deficit of muscle or fat. Remember the maximum point score for physical exam is only 3 points and you are not likely to be off by more than 1 point...                 </td> </tr> <tr> <td>interosseous muscles</td> <td>0 1+ 2+ 3+</td> </tr> <tr> <td>thigh (quadriceps)</td> <td>0 1+ 2+ 3+</td> </tr> <tr> <td><b>Global muscle status rating</b></td> <td>0 1+ 2+ 3+</td> </tr> <tr> <td>orbital fat pads</td> <td>0 1+ 2+ 3+</td> </tr> <tr> <td>triceps skin fold</td> <td>0 1+ 2+ 3+</td> <td></td> </tr> <tr> <td><b>Global fat deficit rating</b></td> <td>0 1+ 2 3+</td> <td></td> </tr> </table> Numerical score from Worksheet 4 <input style="width: 50px;" type="text"/> <b>D</b> <b>Total PG-SGA score</b> <input style="width: 50px;" type="text"/> (Total numerical score of A+B+C+D above) (See triage recommendations below) <b>Global PG-SGA rating (A, B, or C) =</b> <input style="width: 50px;" type="text"/>	<b>Muscle Status:</b>	<b>Fluid Status:</b>		clavicles (pectoralis & deltoids)	0 1+ 2+ 3+	These are examples of areas that can/should be considered in determining loss/deficit (or excess fluid). RELAX... One does NOT have to assess all of these to have a global sense for loss or deficit of muscle or fat. Remember the maximum point score for physical exam is only 3 points and you are not likely to be off by more than 1 point...	interosseous muscles	0 1+ 2+ 3+	thigh (quadriceps)	0 1+ 2+ 3+	<b>Global muscle status rating</b>	0 1+ 2+ 3+	orbital fat pads	0 1+ 2+ 3+	triceps skin fold	0 1+ 2+ 3+		<b>Global fat deficit rating</b>	0 1+ 2 3+		Clinician Signature _____ RD RN PA MD DO Other _____ Date _____
<b>Muscle Status:</b>	<b>Fluid Status:</b>																				
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<b>Worksheet 5 - PG-SGA Global Assessment Categories</b> <table style="width:100%; border-collapse: collapse;"> <tr> <th style="width:33%;">Stage A</th> <th style="width:33%;">Stage B</th> <th style="width:33%;">Stage C</th> </tr> <tr> <td>Well nourished</td> <td>Moderately malnourished</td> <td>Severely malnourished</td> </tr> <tr> <td>No wt loss</td> <td>&lt;2% wt loss in 1 month (or 10% in 6 mos)</td> <td>&gt; 5% wt loss in 1 month (or &gt;10% in 6 mos)</td> </tr> <tr> <td>OR Recent wt gain</td> <td>OR Progressive wt loss</td> <td>OR Progressive wt loss</td> </tr> <tr> <td>Nutrient intake</td> <td>Definite decrease in intake</td> <td>Severe deficit in intake</td> </tr> <tr> <td>No deficit OR Significant recent improvement</td> <td>Present of nutrition impact symptoms (PG-SGA Box 3)</td> <td>Present of nutrition impact symptoms (PG-SGA Box 3)</td> </tr> <tr> <td>Nutrition Impact Symptoms</td> <td>OR Significant recent improvement allowing adequate intake</td> <td></td> </tr> <tr> <td>Functioning</td> <td>Moderate functional deficit</td> <td>Severe functional deficit</td> </tr> <tr> <td>No deficit OR Recent improvement</td> <td>OR Recent deterioration</td> <td>OR recent significant deterioration</td> </tr> <tr> <td>Physical Exam</td> <td>Evidence of mild to moderate loss of muscle mass / SQ fat / tissue, recent improvement muscle tone on palpation</td> <td>Obvious signs of malnutrition (e.g., severe loss muscle, SQ possible edema)</td> </tr> </table>	Stage A	Stage B	Stage C	Well nourished	Moderately malnourished	Severely malnourished	No wt loss	<2% wt loss in 1 month (or 10% in 6 mos)	> 5% wt loss in 1 month (or >10% in 6 mos)	OR Recent wt gain	OR Progressive wt loss	OR Progressive wt loss	Nutrient intake	Definite decrease in intake	Severe deficit in intake	No deficit OR Significant recent improvement	Present of nutrition impact symptoms (PG-SGA Box 3)	Present of nutrition impact symptoms (PG-SGA Box 3)	Nutrition Impact Symptoms	OR Significant recent improvement allowing adequate intake		Functioning	Moderate functional deficit	Severe functional deficit	No deficit OR Recent improvement	OR Recent deterioration	OR recent significant deterioration	Physical Exam	Evidence of mild to moderate loss of muscle mass / SQ fat / tissue, recent improvement muscle tone on palpation	Obvious signs of malnutrition (e.g., severe loss muscle, SQ possible edema)	<b>Nutritional Triage Recommendation:</b> Additive score is used to define specific nutritional interventions including patient & family education, symptom management including pharmacologic intervention, and appropriate nutrient intervention (food, nutritional supplements, enteral, or parenteral triage). <b>First line nutrition intervention includes optimal symptom management.</b> <b>Triage based on PG-SGA point score</b> 0-1 No intervention required at this time. Re-assessment on routine and regular basis during treatment. 2-3 Patient & family education by dietitian, nurse, or other clinician with pharmacologic intervention as indicated by symptom survey (Box 3) and lab values as appropriate. 4-8 Requires intervention by dietitian, in conjunction with nurse or physician as indicated by symptoms (Box 3). >9 Indicates a critical need for improved symptom management and/or nutrient intervention options.
Stage A	Stage B	Stage C																													
Well nourished	Moderately malnourished	Severely malnourished																													
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 Worksheet 5 May be helpful to circle relevant statement for each PG-SGA category to visually help identify the overall global assessment

Source: "Scored Patient-Generated Subjective Global Assessment (PG-SGA)," <http://pt-global.org/wp-content/uploads/2014/09/PG-SGA-Sep-2014-teaching-document-140914.pdf>; Oncology Roundtable interviews and analysis.

# Nutrition Assessments

## Abbott Nutrition Screening

 <b>Find-Feed-Follow Oncology Plan</b>			
	LOW RISK	MODERATE RISK	HIGH RISK
 <p><b>FIND™</b> your patients at nutritional risk</p>	<p><b>Diagnosis:</b></p> <ul style="list-style-type: none"> <li>Breast cancer/Prostate cancer</li> </ul> <p><b>Symptoms: Yes, to 1-2 of the following:</b></p> <ul style="list-style-type: none"> <li>Change in eating habits                             <ul style="list-style-type: none"> <li>– eating less</li> <li>– eating less solids</li> <li>– unable to eat</li> </ul> </li> <li>Nausea and vomiting</li> <li>Diarrhea</li> <li>Loss of appetite</li> <li>Difficulty chewing and swallowing</li> <li>Less involvement with activities of daily living</li> </ul> <p><b>Weight Loss:</b></p> <ul style="list-style-type: none"> <li>Up to 5% since start of treatment</li> </ul>	<p><b>Diagnosis:</b></p> <ul style="list-style-type: none"> <li>Pancreatic cancer/Lung cancer/GI cancer/Colorectal cancer</li> </ul> <p><b>Symptoms: Yes, to 3-4 of the following:</b></p> <ul style="list-style-type: none"> <li>Change in eating habits                             <ul style="list-style-type: none"> <li>– eating less</li> <li>– eating less solids</li> <li>– unable to eat</li> </ul> </li> <li>Nausea and vomiting</li> <li>Diarrhea</li> <li>Loss of appetite</li> <li>Difficulty chewing and swallowing</li> <li>Less involvement with activities of daily living</li> <li>At risk for a wound</li> </ul> <p><b>Weight Loss:</b></p> <ul style="list-style-type: none"> <li>Weight loss prior to treatment of &gt; 5%</li> <li>Weight loss since start of treatment of 6%-10%</li> </ul> <p><b>Therapy</b></p> <ul style="list-style-type: none"> <li>Concurrent therapies</li> </ul>	<p><b>Diagnosis:</b></p> <ul style="list-style-type: none"> <li>Head and neck cancer</li> </ul> <p><b>Symptoms: Yes, to 5 or more of the following:</b></p> <ul style="list-style-type: none"> <li>Change in eating habits                             <ul style="list-style-type: none"> <li>– eating less</li> <li>– eating less solids</li> <li>– unable to eat</li> </ul> </li> <li>Nausea and vomiting</li> <li>Diarrhea</li> <li>Loss of appetite</li> <li>Difficulty chewing and swallowing</li> <li>Less involvement with activities of daily living</li> <li>Wound</li> </ul> <p><b>Weight Loss:</b></p> <ul style="list-style-type: none"> <li>Weight loss &gt;10% since treatment</li> </ul> <p><b>Therapy</b></p> <ul style="list-style-type: none"> <li>Breaks in treatment</li> </ul>
 <p><b>FEED™</b> your patients targeted nutrition</p>	<p><b>Nutrition Targets—per kg body weight</b></p> <p><b>Calorie Target<sup>17</sup>:</b> 25-30 Kcal/kg</p> <p><b>Protein Target<sup>17</sup>:</b> 1-1.2 g/kg</p> <p><b>Supply Patient Support Tools:</b></p> <ul style="list-style-type: none"> <li>Patient educational brochure, oral nutritional supplement sample, and coupons</li> <li>Symptom management handouts</li> </ul> <p><b>Recommended Nutrition Plan:</b></p> <ul style="list-style-type: none"> <li>Recommend oral nutritional supplement as needed (1-2/day)</li> <li>Ensure<sup>®</sup> Clinical Strength* 8 oz. 350 Kcal 13 g protein 1.5 g Reivigor</li> <li>For patients with diabetes – Glucerna<sup>®</sup> Shake<sup>†</sup> 8 oz. 200 Kcal 10 g protein</li> </ul>	<p><b>Calorie Target<sup>17</sup>:</b> 30-35 Kcal/kg</p> <p><b>Protein Target<sup>17</sup>:</b> 1.2-1.6 g/kg</p> <p><b>Supply Patient Support Tools:</b></p> <ul style="list-style-type: none"> <li>Patient educational brochure, oral nutritional supplement sample, and coupons</li> <li>Symptom management handouts</li> <li>Abbottstore.com site for easy ordering</li> </ul> <p><b>Recommended Nutrition Plan:</b></p> <ul style="list-style-type: none"> <li>Prescribe oral nutritional supplement 2/day</li> <li>Ensure Clinical Strength* 2 X 8 oz. 700 Kcal 26 g protein 3 g Reivigor</li> <li>For patients with diabetes – Glucerna Shake<sup>†</sup> 2 X 8 oz. 400 Kcal 20 g protein</li> </ul>	<p><b>Calorie Target<sup>17</sup>:</b> 35 Kcal/kg</p> <p><b>Protein Target<sup>17</sup>:</b> 1.5-2.5 g/kg</p> <p><b>Supply Patient Support Tools:</b></p> <ul style="list-style-type: none"> <li>Patient educational brochure, oral nutritional supplement sample, and coupons</li> <li>Symptom management handouts</li> <li>Abbottstore.com site for easy ordering</li> </ul> <p><b>Recommended Nutrition Plan:</b></p> <ul style="list-style-type: none"> <li>Recommend Registered Dietitian consult</li> <li>Prescribe oral nutritional supplement 2/day</li> <li>Ensure Clinical Strength* 2 X 8 oz. 700 Kcal 26 g protein 3 g Reivigor</li> <li>For patients with diabetes – Glucerna Shake<sup>†</sup> 2 X 8 oz. 400 Kcal 20 g protein</li> <li>For patients with wounds – Add Juvex<sup>®</sup> 2 x .85 oz. 160 Calories 0 protein 3 g Reivigor</li> </ul>
 <p><b>FOLLOW™</b> your patients throughout treatment</p>	<p><b>Nutrition Plan Follow-Up</b></p> <ul style="list-style-type: none"> <li>Conduct weekly weights, monitor change</li> <li>Reassess nutritional risk at every visit</li> <li>Verify patient adherence to nutrition plan</li> </ul>	<ul style="list-style-type: none"> <li>Conduct weekly weights, monitor change</li> <li>Reassess nutritional risk at every visit</li> <li>Verify patient adherence to nutrition plan</li> <li>Discuss ideas for improving oral nutritional intake (i.e. recipes, between meals, with meds)</li> </ul>	<ul style="list-style-type: none"> <li>Conduct weekly weights, monitor change</li> <li>Reassess nutritional risk at every visit</li> <li>Verify patient adherence to nutrition plan</li> <li>Discuss ideas for improving oral nutritional intake (i.e. recipes, between meals, with meds)</li> </ul>

The American College of Surgeons Commission on Cancer 2012 Program Standards indicate an optimal cancer program encompasses nutrition services, including screening and education, across the cancer continuum.<sup>18</sup>

Start Strong to Stay Strong™  
with Abbott Nutrition

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83549/April 2012 LITHO IN USA  
www.abbottnutrition.com

\* Ensure Clinical Strength twice daily has 3g Reivigor (Cal-ME).  
Juvex twice daily has 3g of Reivigor. Do not exceed a total of 4 servings per day of Ensure Clinical Strength and Juvex.  
Use under medical supervision.



Source: Sauer AC, Voss AC, "Improving Outcomes with Nutrition in Patients with Cancer," Abbott Nutrition, May 2012, [http://www.onsedge.com/wordpress/wp-content/uploads/2012/07/Abbott-white-paper-final\\_Web.pdf](http://www.onsedge.com/wordpress/wp-content/uploads/2012/07/Abbott-white-paper-final_Web.pdf); Oncology Roundtable interviews and analysis.