

PG-SGA Physical Examination

A nutrition-focused physical examination should be completed as part of the PG-SGA

Materials required:

- PG-SGA worksheet

Procedure:

- Perform hand hygiene and make sure you use appropriate PPE as required (e.g. gloves, mask or gown)
- Ensure you respect patient privacy
 - Conduct the exam in a private space
 - Expose areas of body only as needed
- Talk with the patient:
 - Explain what you will be doing
 - Ask for permission to touch them

Scoring

Rating for degree

- Each site assessed in the physical exam is rated for degree (i.e. 0, 1+, 2+, 3+). Ratings for individual sites are NOT ADDITIVE and are used to clinically assess the degree of deficit for muscle and fat or presence of excess fluid.

0 = none 1+ = mild 2+ = moderate 3+ = severe

- Following assessment of each site, determine the global muscle, fat and fluid status rating based on the majority rating response.
- The physical examination score reflects the **overall subjective rating for total body deficit** based on your clinical judgment and the global rating of muscle status, fat stores, and fluid status. Remember that muscle deficit or loss takes precedence over fat loss or fluid excess.

Scoring criteria for Physical Examination

| | |
|----------|------------------|
| None | score = 0 points |
| Mild | score = 1 point |
| Moderate | score = 2 points |
| Severe | score = 3 points |

- Remember, the maximum score for the physical exam is 3 points. So, if you are feeling uncertain about your scoring, you're unlikely to be off by more than one point.

Muscle Status

- Muscle status is assessed at 7 key sites, from which a global muscle status rating is given based on muscle mass, bulk and tone.
- Assess as many sites as is practical to have a global sense of muscle deficit. Ideally at least 4 sites should be assessed. Prioritise the muscle sites over the fat store and fluid status sites.

Temples (Temporalis)


- Looking at the patient from the front, check for hollowing at the temple, between the hairline and the eye socket.
- You can palpate (feel) the area by placing your finger on the muscle and asking the patient to open and close their mouth or clench their jaw. This allows you to feel the muscle tone.

Telehealth prompt:

Can you please press your index finger around your eye like this? (demonstrate)

Can you feel a layer of muscle here?

If you clench your teeth – can you feel it then?




| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|---|---|---|
|  |  |  |
| Should be well defined with no scooping or hollowing. | Slight depression. | Hollowing, obvious indentation. |

Clavicles (Pectoralis and deltoids)

- Look for muscle cover below the clavicle and assess accordingly.
- The clavicle should not be prominently visible in a well-nourished person.

Telehealth prompt:

Can you please move your top so I can clearly see this area? (point to your clavicle)

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|--|---|--|
|  <p data-bbox="164 678 547 822">Should not be visible. Sometimes slightly visible in a well-nourished female but should not protrude.</p> |  <p data-bbox="595 678 914 790">Visible clavicle in males. Slightly protruding in females.</p> |  <p data-bbox="1026 678 1393 745">Clear protrusion, prominent bone.</p> |

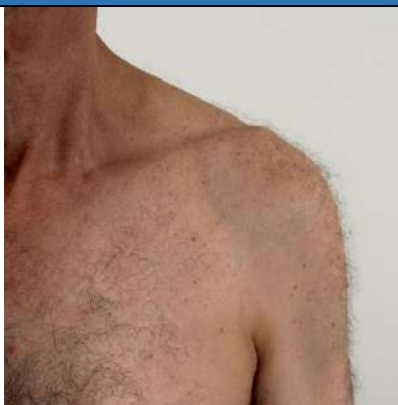
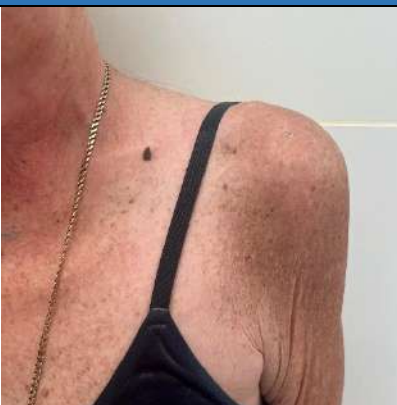

Shoulders (Deltoids)

- Ask the patient to stand facing you with arms by their side.
- Look for muscle shape and muscle cover around the shoulders.

Telehealth prompt:

Can you please sit up straight, directly facing the camera with your shoulder in clear view?

Have you noticed any changes to the muscles over and around your shoulder?




| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|---|--|--|
|  <p data-bbox="164 1753 563 1897">Shoulders should be rounded with curves at the junction of the shoulder/neck and shoulder/arm.</p> |  <p data-bbox="595 1753 898 1865">No square look. Acromion process may protrude slightly.</p> |  <p data-bbox="1026 1753 1377 1865">Square look. Prominent and protruding acromion process.</p> |

Interosseous muscle

- Ask the patient to press their thumb and index finger firmly together and make the 'OK' sign
- The interosseous muscle should be flat for females and slightly prominent for males.

Telehealth prompt:

Can you please squeeze your thumb and pointed index finger together for me – like this (demonstrate)?

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|--|--|--|
|  |  |  |
| The muscle should be slightly prominent in males and flat in females. | Mild flattening or slightly depressed. | Scooping or depression. |




Scapula (*Latissimus dorsi, trapezius, deltoids*)

- First, assess whether ribs are easily visible on the outer sides of the upper back.
- Then, ask the patient to extend their arms straight out in front and push against a wall or your hand.
- Look for muscle cover over the top and to the sides of the shoulder blade.

Telehealth prompt:

Can you position yourself so I can see your upper back?

If you can put your hands out in front of you and press onto a flat surface like the wall that would be great – otherwise just your hands out in front of you is fine.




| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|---|---|---|
|  |  |  |
| <p>No significant depressions above and below the scapula.</p> | <p>Mild depressions with the scapula showing slightly.</p> | <p>Bones prominent Severe depression surrounding the bone.</p> |

Thigh (Quadriceps)

- The leg muscles are best assessed sitting upright, slightly forward in the seat, with feet resting flat on the ground. If in bed, lift the knee up so that the leg is bent at a right angle.
- Palpate from mid-thigh towards the knee. The muscle above the knee should be well formed with no prominent or protruding bones or depressions.

Telehealth prompt:

Can you please sit down, slightly forward in your seat with your feet flat on the ground and position the camera straight onto your knee.

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|--|---|--|
|  |  |  |
| <p>The area above the knee should be well formed with no prominent or protruding bones or depressions.</p> | <p>Kneecap is visible but still rounded.</p> | <p>Knee bones are prominent and there is an obvious depression of the inner thigh.</p> |




Calf (Gastrocnemius)

- The calf should be well covered with muscle.
- Feel for volume (muscle mass) and tone, noting whether the muscle feels firm or soft.

Telehealth prompt:

Can you gently squeeze your calf for me in your hand?

Have you noticed any changes lately with your calf muscles?

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|--|---|--|
|  |  |  |
| <p>The calf is well developed with good tone (firm).</p> | <p>The volume and/or tone are diminished (muscle feels softer).</p> | <p>Both volume and tone are diminished (muscle feels soft).</p> |

Fat Stores

- Fat stores are assessed at 3 sites, and a global fat deficit rating is given.
- Note that loss of fat tissue may not be obvious when completing a physical exam in patients with pre-existing obesity. Be sure to consider their weight history when assessing fat stores.




Orbital fat pads

- Look at the area under the eye and along the cheek bone. You may need to palpate the cheek bone to assess fat stores.
- Look for dark circles or hollowing that indicate fat loss.
- Some patients typically carry excess fluid under the eye, so be sure to ask about this.

Telehealth prompt:

Can you please press your index finger lightly under your eye?

Can you feel a firm layer of tissue or fat there or does it feel hollow?

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|---|--|---|
|  |  |  |
| Fat pads should bulge slightly. | Slightly dark circles, somewhat hollow look. | Hollow or sunken appearance, dark circles, loose skin. |

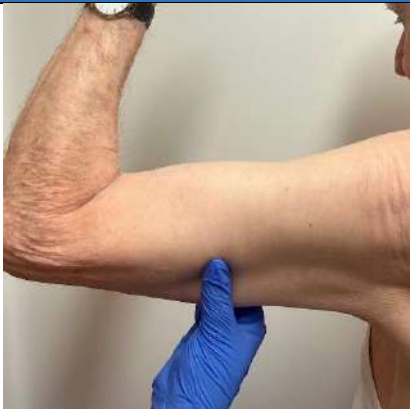
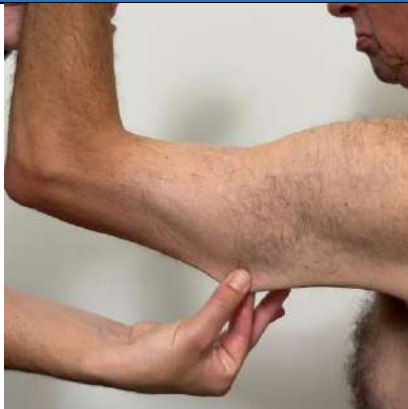

Triceps skin fold

- The triceps can be found on the back of the upper arm.
- Ask the patient to bend their arm. Gently pinch the skinfold between your thumb and finger, ensuring you are assessing the fat layer not the muscle itself.

Telehealth prompt:

Can you please hold your arm up, bent so that you are pointing to the roof (demonstrate). With your other hand, gently pinch two fingers together over the fat layer of your triceps area (demonstrate).

Can you feel a good layer of tissue between your fingers or are your fingers close to touching?

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|---|--|---|
|  |  |  |
| Ample fat tissue between folds of skin. Your fingers should not be touching. | Some depth in pinch but not ample. | Very little space between folds, fingers touch. |




Fat overlying lower ribs

- Observe patient from the back. Palpate along the lower rib cage, feeling for the soft tissue between the skin and bone.
- It may help to ask the patient to press their hands against a wall.

Telehealth prompt:

Please sit with your back facing the camera and pull up your top a small amount so that I can see your lower ribs.

Have you noticed recently that you are carrying less or more weight or fat stores around your ribs?

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|--|---|--|
|  |  |  |
| Ribs should not be visible with a layer of fat covering the bones. | Ribs are slightly more visible, with less fat cover on palpation | Ribs clearly visible and you will be able to feel bone through skin |

Fluid Status

- There are 3 areas used to assess for fluids status.
- Look for oedema in the ankle or the sacrum and assess the patient for the presence of ascites.

Ankle Oedema

- Inspect the lower leg and ankle for fluid accumulation.
- Press down firmly on the skin moving from the top of the foot up towards the ankle.

Telehealth prompt:

Can you please press on the skin – starting at the top of your foot and keep pressing and moving up the ankle (demonstrate).

Is there an indentation when you press on your skin? How long does it last? Does it return to its original position quickly?

| 0 (none) | 1+ (mild) / 2+ (moderate) | 3+ (severe) |
|---|---|---|
|  |  |  |
| <p>No oedema evident</p> | <p>Depression present after you remove pressure.</p> | <p>Deep depression present after you remove pressure.</p> |

Sacral Oedema

- Press on the skin at the base of spine and rate accordingly.

Telehealth prompt:

Have you noticed any increase in puffiness or fluid accumulating around the bottom of your spine lately?

Ascites

- Check for the presence of ascites, which is fluid accumulation in the abdominal cavity and can be associated with liver disease and some cancers such as ovarian cancer.
- It can be helpful to have checked the patients' medical history for any conditions associated with ascites.

Telehealth prompt:

Have you noticed any increase in puffiness or fluid accumulating around your tummy lately?

Frequently asked questions:

Q Do I need to assess all sites?

A Relax, you don't have to assess all sites to have a global sense for loss or deficit of muscle or fat. The muscle sites should be prioritised and ideally at least 4x muscle sites should be assessed to get a good idea about potential physical deficits. Remember the physical exam only contributes a maximum of 3 points – you are not likely to be off by more than 1 point.

Q How can I gain additional information about a patient's muscle stores and function?

A Observing your patient's movement/mobility (walking, sitting or standing) can assist you to understand how their muscle status impacts their physical function.

You can assess muscle strength when shaking their hand or muscle stores by touching their shoulder as you greet them. You can also assess their orbital fat pads and temples whilst you are talking to them. This can be helpful when you are unable to complete a thorough physical assessment (i.e. patient declines, is too unwell or clothing makes it difficult to assess some sites).

Q Where am I more likely to observe nutrition related muscle loss?

A Nutrition-related muscle deficit is more likely to be evident in the upper body (that is, the face, shoulders, arms, scapula, and hands) whereas muscle loss due to inactivity or bedrest is more likely to be evident in the upper leg or thigh.

Q Is it possible for a patient be well nourished, despite having deficits in muscle status and fat stores?

A Yes, a patient may still have deficits in their muscle and fat stores, but their nutrition impact symptoms have resolved with a subsequent improvement in nutritional intake and weight. i.e. they are now considered anabolic.

Q What should I look out for when completing a physical exam on patients with obese sarcopenia?

A It's important to remember that excess fat stores can mask deficits in muscle mass. Muscle wasting can often be observed in the temples, clavicles and shoulders. You may also notice central obesity, but visibly thin limbs. Ask about any recent changes to their physical function, such as difficulty rising from a chair or climbing stairs.

Q How common is it to see oedema and ascites related to malnutrition?

A Oedema and ascites related to malnutrition is rare or usually only seen in severely malnourished patients.

Q Can I conduct a physical exam via telehealth?

A Yes, you can! Ensure the camera is positioned so that you can see the patient and give clear instructions on which body part you want to assess and where you want the patient to press. Ask questions and gain feedback from the patient. For example, can you feel a firm layer of tissue, or have you noticed any changes to the muscles in your legs recently?

Key references:

Ottery FD. Patient-Generated Subjective Global Assessment In: The Clinical Guide to Oncology Nutrition ed. PD McCallum & CG Polisena, 2000; pp 11–23 Chicago: The American Dietetic Association

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