HOW TO USE THE HIGH-RISK FOOT SCREENING TOOL

MODIFIED INLOW'S DIABETIC FOOT SCREEN FOR FOOT CARE PROVIDERS

HPE OHT LOWER LIMB PRESERVATION DEMONSTRATION PROJECT, BANCROFT PILOT
OCTOBER 2023

Screening for Peripheral Arterial Disease

1. Ask the following questions:
   - Do you get pain in your feet or legs when walking?
   - Is it resolved with rest?
   - Does this pain limit your mobility?

   If they answered yes to the above questions, check the “positive” circle.

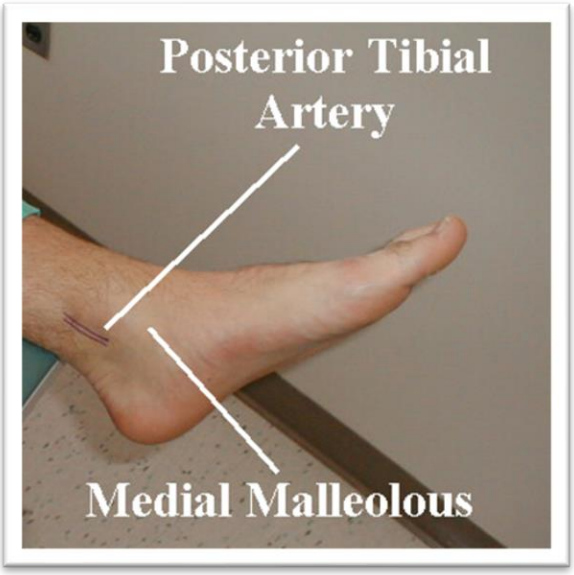
2. Capillary Refill Test
   - Compress the large toe until the tissue turns white
   - Release and count the number of seconds until the colour returns
   - Repeat on the other foot

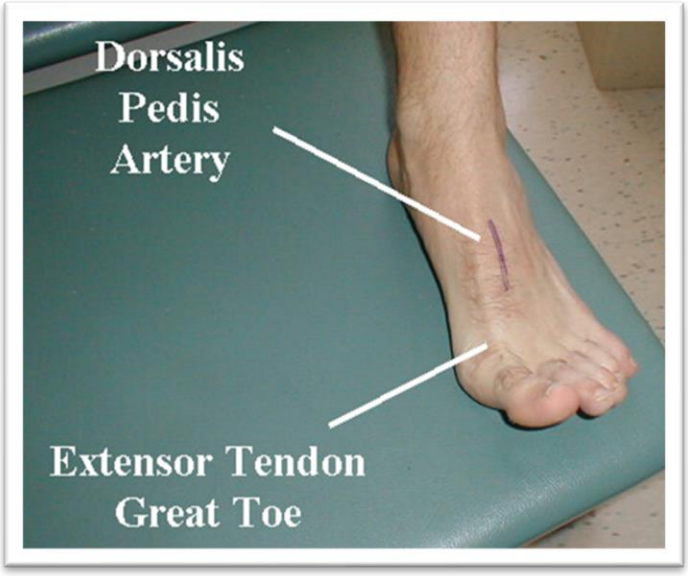
   If the refill time took more than three seconds, check the “positive” circle.

3. Colour
   - Do the toes appear dark red or purple in colour?
   - Do the toes appear very pale or blanched in colour?
   - Note: Colour may change with foot positioning. Sometimes the dark red/purple colour will fade with foot elevation and become pale, this is still a positive outcome.

   If yes to the above questions, check the “positive” circle.

4. Pedal Pulse
   - Locate and evaluate the pulses of the posterior tibial artery (behind the medial malleolus or ankle bone) and the dorsalis pedis artery (top of the midfoot).





Images: https://meded.ucsd.edu/clinicalmed/extremities.html

If you are unable to palpate one or both of these pulses, check the “positive” circle. If you have access to a doppler, you can locate them this way. This however WILL NOT change the outcome of your assessment because a non-palpable pulse still warrants a positive outcome. (Comment in the “note” section at the bottom if the pulses were found with a doppler.)

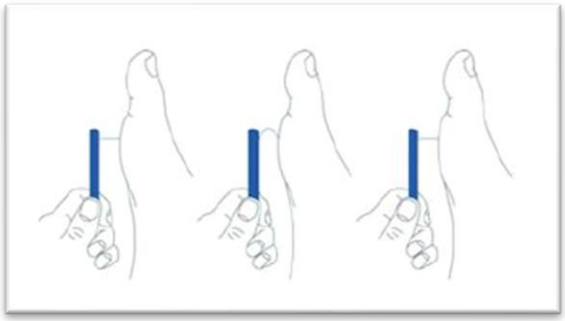
Screening for Loss of Protective Sensation

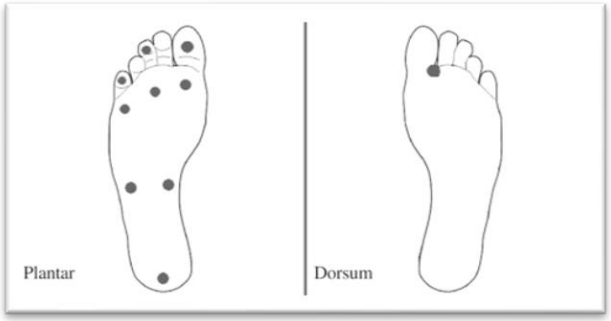
1. *Ask the following 4 questions:*
   - Are your feet ever numb?
   - Do they ever tingle?
   - Do your feet ever feel like they are burning?
   - Do they ever feel like insects are crawling on them?

   If yes to the above questions, check the “positive” circle.

2. *Complete the Monofilament test, 10 sites per foot as seen in the diagram below*
   - Demonstrate the monofilament on the back of patient’s hand first.
   - Check the sites with the patient’s eyes closed and ask them to raise their hand on the same side as they feel the filament (i.e., have them raise their right hand if they feel the filament on their right foot).
   - Place the monofilament at 90 degrees to the skin surface.
   - Slowly push the monofilament until it has a bend; don’t jab or let it slide.
   - Hold the monofilament in this position for 1-2 seconds, then slowly release the pressure until the monofilament is straight and remove from the skin.
   - Do not test over sites of callous, scar tissue, open wounds or necrosis.
   - If the patient does not respond, repeat the test at the site twice to confirm the results.

   If the monofilament is absent at one or more sites check the “positive” circle.





Images: https://www.prohealthcareproducts.com/blog/diabetic-neuropathy-monofilament-foot-screen/

https://www.researchgate.net/figure/Showing-the-10-sites-in-the-foot-for-507-Semmes-Weinstein-monofilament-testing-SWMT_fig2_221683581

Assessing Foot Deformities

1. *Mild Foot Deformities*
   - See “Assessing Foot Deformities” for descriptions of common, mild foot deformities like bunions, claw toes, hammer toes, overlapping toes, dropped metatarsal heads, etc.

   If they have any of these foot conditions on the left or right foot, check the appropriate “positive” circle.

2. *Hallux Limitus*
   - Hallux Limitus is a condition where the large toe has a limited range of motion. Test range of motion by securely grabbing above and below the large toe joint. Push the toe upwards and assess the degree of movement.

   If it falls between 15 and 45 degrees, you will select the “positive” circle.

3. *Hallux Rigidus*
   - Hallux Rigidus testing is the same as above however the maximum angle the toe will reach is 15 degrees dorsiflexion.
   - You can use a goniometer to measure more accurately, but it is not necessary.

   If it falls below 15 degrees, you will select the “positive”

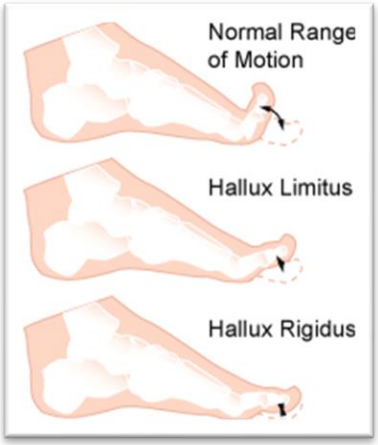


Image: https://www.slideshare.net/ashwinagrover/hallux-rigidus-64801020

4. *History of Foot Ulcer **
   - Ask the following: Have you ever had any prior open sores or foot ulcers? If so, where?
   - Be sure to mark the diagram as this is an area to carefully monitor for recurrence as it can take 18 months for skin resilience to return to normal.

5. *Active Foot Ulcer **
   - Check the foot carefully for any current open wounds.

   If they have had or currently have a foot ulcer, check the appropriate “positive” circle.

6. *Chronic Charcot Foot Deformity*

   - Chronic Charcot will appear deformed with thickening of the midfoot or a rocker bottom (lump in the arch area).

   If they are positive for chronic Charcot foot, select the “positive” circle.

7. *Acute Charcot Foot Deformity **
   - Charcot foot is when the neuropathic foot fractures and repairs itself. It can occur in any joint of the foot but is most commonly seen in the midfoot and ankle. Acute Charcot will appear as red, hot, swollen and painful (always a bad sign in a neuropathic foot). This will place the individual in the Urgent Risk category.

   If they exhibit signs of acute Charcot foot, select “positive” circle. <u>They are in need of Urgent care</u>.

8. Amputation *
    - Observe for any amputations.

Select “positive” circle if the individual has had any surgical or traumatic amputations.

Assessing Footwear

1. *Inappropriate*
    - Assess the individual’s presenting footwear. Inappropriate footwear would be footwear that has open toes, no retaining medium (i.e., no laces or Velcro straps), or does not fit properly. Look inside to see if the insole or shoe has holes worn in it.
    - If their footwear meets these conditions, select the “positive” circle.
    - Be sure to ask what type of footwear they wear at home.
    - If they go in sock feet or bare feet or wear inappropriate footwear at home, you will also select the “positive” circle.

2. *Causing Trauma*
    - Check the foot for any signs of trauma from the shoe. Look for rubbing or evidence of blisters. Check for corns or callouses on or between the toes. Look inside for possible foreign objects inside the shoe.

      If you find any evidence of the above, select the “positive” circle.

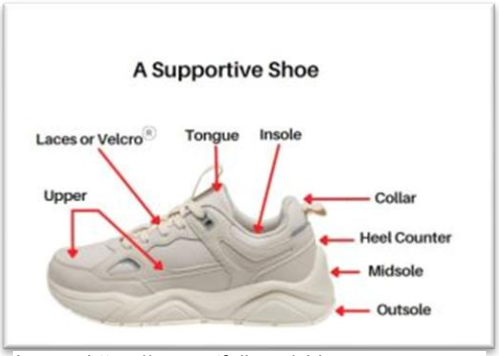


Image: https://preventfalls.ca/older-adults/footwear/

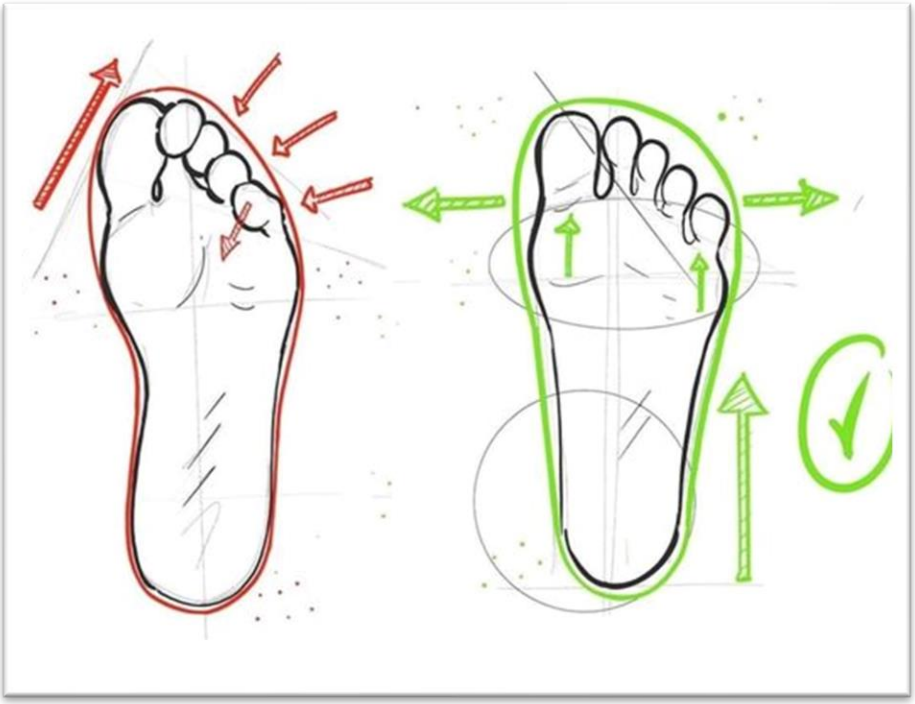


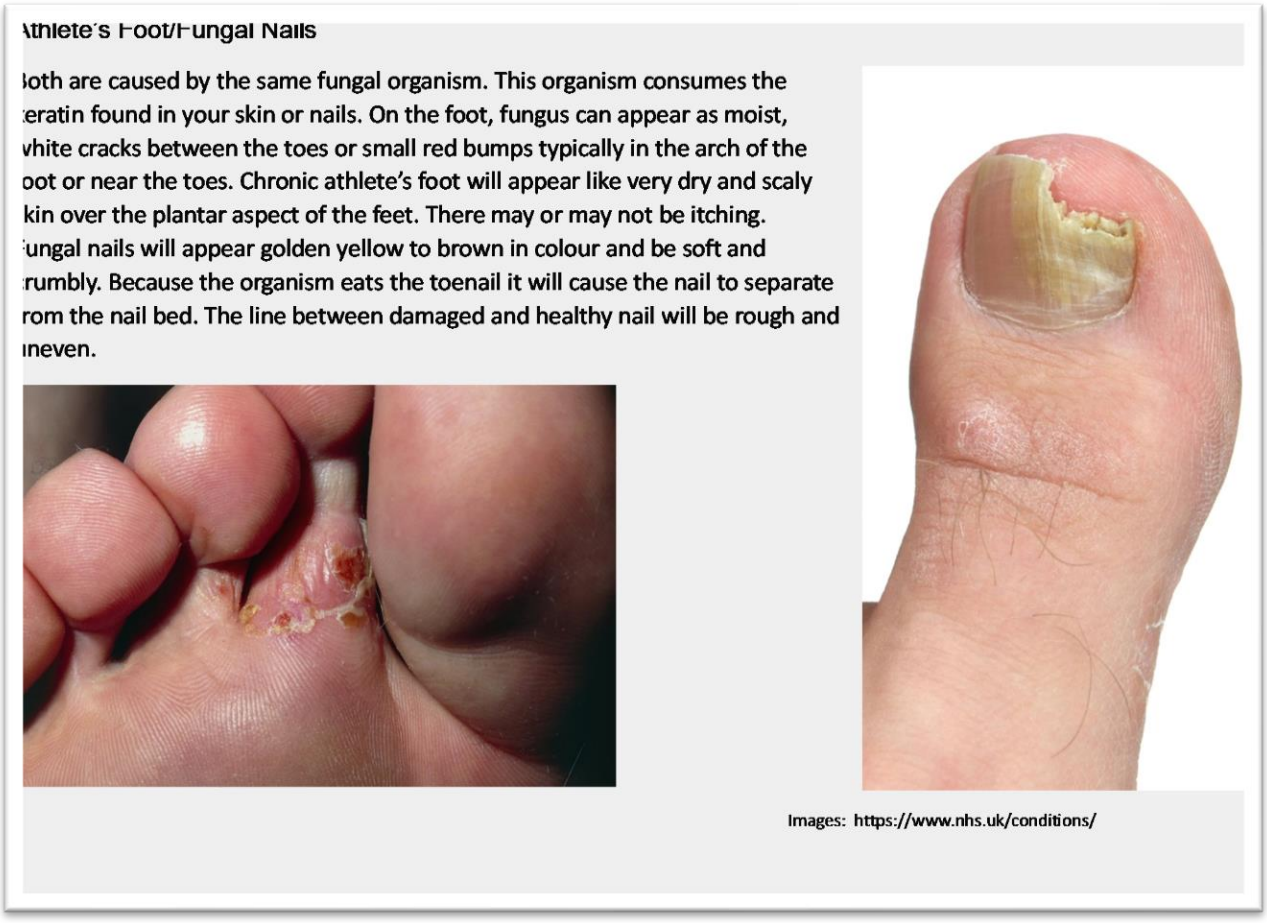
Image: https://www.facebook.com/SquatUniversity/photos/a.2448340581932667/2959093990857321/

3. *End Stage Renal Disease* *
   - Ask the client if they are aware of their kidney function or if they have renal disease.

Assessing Skin and Nail Conditions

1. *When you check the skin on both feet, be sure to look at the:*
   - Top of the feet
   - Bottom of the feet
   - Sides of the feet
   - Back of the heels
   - Between all the toes
   - Check for any skin conditions listed on the assessment form and mark the diagram with the appropriate letter.
   - If you are unsure of what you are looking at, use your best guess and add a question mark (i.e. W?) or just a question mark (?)
   - Please refer to the images below to help identify certain skin conditions.

A: Athlete's Foot/Fungal Nail

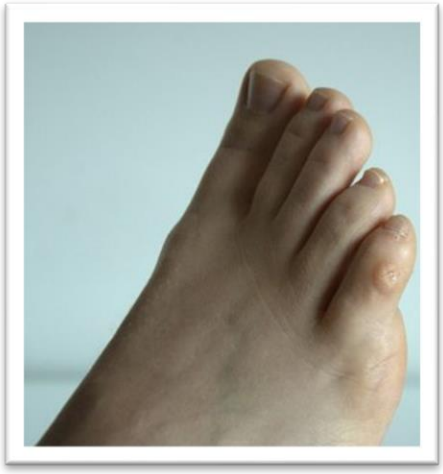


C: Callous

Callous is yellow, firm skin formed from thickening of the skin due to friction and shearing stresses.

Corns are essentially callouses with a hard “kernel” centre and forms due to high pressure. Soft corns are macerated, rubbery corns that form between toes and due to high amounts of moisture become white and soft.

H: Corns



Images: https://www.footandanklegroup.com/whats-the-difference-between-foot-corns-vs-foot-calluses/

F: Fissures

Fissures are cracks in the skin representing a skin tear due to too much tensile stress. They most commonly occur around the heels and the first and fifth metatarsal phalangeal joints. They can occur because the skin is either too thick or too thin.

Image: https://piedreseau.com/en/problemes/plantar-fissures/

U: Active Ulcers and P: History of Ulcer

Ulcers occur due to lack of circulation OR too much pressure on an area of the foot. Vascular ulcers will appear as weeping punctate wounds and will occur on non-weight-bearing areas of the foot and legs. Pressure ulcers will occur anywhere on the foot where there is excessive pressure (i.e. between toes, plantar aspect, etc.) and typically will be preceded by callous development. Due to a lack of sensation, the individual will not be aware of the excessive pressure and the skin subsequently breaks down. This will appear as a fluid or blood-filled callous, a weeping open sore with or without underlying structures exposed.

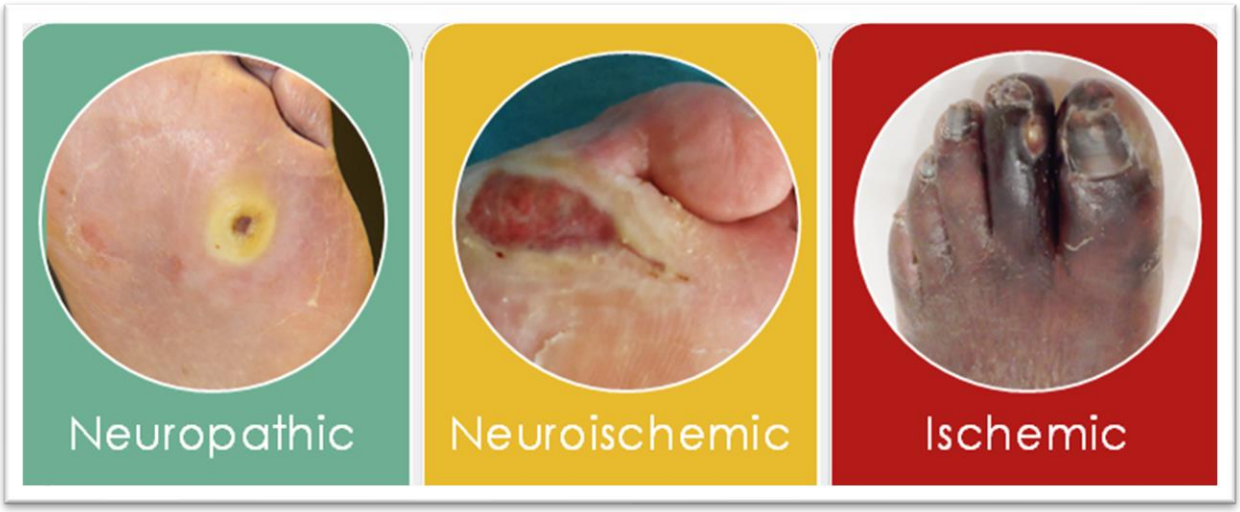


Image: https://www.drcumming.com/educational-musings/foot-ulcers-spectrum-of-ischemia

G: Gangrene

Gangrene occurs due to lack of circulation to an area of the foot. Early signs of gangrene in the digits can be purple/red and swollen digits and loosening of the toenails. As gangrene progresses the tissues will die off due to lack of oxygen and appear black and scab like. Ulcers may also have gangrenous periphery/base as well.

W: Warts

Warts often appear similar to corns and may or may not have small dots/pepperpot appearance. They do not always have to be treated; however, they should be referred for assessment and to discuss treatment options.

Image: https://www.footandanklegroup.com/whats-the-difference-between-foot-corns-vs-foot-calluses

I: Ingrown Nail

An ingrown nail occurs when the toenail pierces the skin. It then causes the surrounding tissue to become red, swollen and painful. There will be clear drainage or blood and pus if it becomes infected. This is most commonly caused by cutting a nail too short with a jagged edge.

Above two images: https://thefoothub.com.au/nail-conditions/

N: Involuted/ Pincer Nail

An involuted nail is a nail that has an increased side-to-side curvature. When the nail is so curved and the opposite sides are almost touching, it is considered a pincer nail. These nails can be an issue of pain and discomfort for the individual. If improperly cared for can lead to ingrown nails or an excessive build up of hard skin (onychophosis) in the sulcus which can cause pain.

S: Subungual Haematoma (blood blister under the nail)

A subungual haematoma will appear as a darkened area under the nail. It will occur due to trauma or pressure from footwear or a thickened nail. These will grow out eventually, however the assessor should evaluate why it has occurred to prevent further injury.

Image: https://thepodiatry.org/podiatry-services/125/subungual-haematomas-bleeding-under-nail.html

T: Thickened Nails

Uniform thickening as one ages is normal. This does not need to be identified. Uneven thickening occurs most commonly due to trauma or fungus.

Image: https://www.foot-pain-explored.com/thick-toenails.html

Assessing Structural Conditions

B: Bunions

Bunions can involve either the first or fifth digit. It occurs when the metatarsal behind the toe drifts outwards and the resulting toe drifts inward causing a widening of the forefoot. This makes shoe fit more difficult and increases risk of pressure points.

Image: https://cosmeticfootsurgery.co.uk/index.php/en/foot-conditions/tailors-bunion

D: Dropped Metatarsal Head

The metatarsals are the bones behind the toes, and with the toes create the ball of the foot. Pressure should be evenly distributed across the ball of the foot. A dropped metatarsal head will appear as a protrusion on the plantar aspect of the ball of the foot. This will cause increased pressure and may cause a callous, corn or ulcer.

Image: https://www.fixmyfoot.co.uk/metatarsal-surgery-windsor-maidenhead.html

O: Claw/Hammer/Overlapping Toes

Image: https://happytoes.ca/hammertoes/

Claw and hammer toes appear as a retraction or bend in the digit. A hammer toe cannot be straightened and is bent at the first joint, whereas a claw toe is still flexible and may be bent at both toe joints. Overlapping of toes can occur as digits drift due to instability. This makes shoe fit difficult and can create a number of pressure points.

Image: https://adelaidefootandankle.com.au/hammer-toes-causes-diagnosis-treatment/

R: Charcot Foot

Charcot foot is when the neuropathic foot fractures and rebuilds itself. It can occur in any joint of the foot but is most commonly seen in the midfoot and ankle. Acute Charcot will appear as red, hot, swollen and painful (always a bad sign in a neuropathic foot). Chronic Charcot will appear deformed with thickening of the midfoot or a rocker bottom (lump in the arch area).

Image: https://www.themayerinstitute.ca/charcot-by-frykberg/

X: Amputation Site

On the diagram, mark all sites of traumatic or surgical amputation. All amputations will affect the function of the foot and automatically places your client in the high

* Denotes factors that automatically place the client in the high or urgent risk categories.

Recommendations/Notes

- Use this area to clarify any additional information from your assessment, or your treatment plan.

Results

- From your assessment, select the appropriate risk category.