

**TUTORIAL**  
**Noncommunicable Diseases (NCDs)**  
**Course COMM 311**

**By the end of this tutorial you should be able to:**

1. Describe the burden of four main Noncommunicable Diseases (NCDs) in Saudi Arabia. (10 minutes)
2. Find the prevalence of four main risk factors of NCDs in Saudi Arabia. (10 minutes)
3. Calculate and interpret the risk of having Atherosclerotic Cardiovascular Disease. (10 minutes)
4. Calculate the BMI, measure the waist circumference (WC) and interpret them. (5 minutes)
5. Assess the physical activity stage of change and identify main strategies based on the stage. (10 minutes)
6. Provide primary prevention advice regarding physical activity and healthy eating. (5 minutes)

**Resources needed:**

1. Laptop or tablet
2. Active internet connection
3. A friend sitting next to you

**Exercise 1:** Use the following website to determine the burden of disease of the 4 main NCDs in your country: <http://www.who.int/nmh/countries/en/index.html> (10 minutes)

1. What are the 4 main NCDs in Saudi Arabia?
  
  
  
  
  
  
  
  
  
  
2. What is the proportion of all deaths that NCDs are estimated to account for in Saudi Arabia?
  
  
  
  
  
  
  
  
  
  
3. Which NCD is causing the most deaths in Saudi Arabia?

**Exercise 2:** Find the prevalence of four main risk factors of NCDs in Saudi Arabia. (10 minutes).

Use the following link: [https://www.who.int/gho/ncd/risk\\_factors/en/](https://www.who.int/gho/ncd/risk_factors/en/) (find "View Data")

Prevalence of risk factor 1 (males, females):

Prevalence of risk factor 2 (males, females):

Prevalence of risk factor 3 (males, females):

Prevalence of risk factor 4 (males, females):

**Exercise 3:** Calculate and interpret the Atherosclerotic Cardiovascular Disease risk (10 minutes)

As a primary prevention you need to calculate the risk of having a cardiovascular event for a 52-year-old white man. His blood pressure is 140/80 mm Hg. The total cholesterol is 6.99 mmol/L, HDL cholesterol is 0.83 mmol/L, and LDL cholesterol is 4.37 mmol/L. He does not have diabetes, but he is a current smoker. He does not receive any medication. Weight: 105; Height: 172; WC = 105.

Use the following tool to calculate his cardiovascular risk (change the units to SI):

<http://tools.acc.org/ASCVD-Risk-Estimator-Plus/#!/calculate/estimate/>

1. What is the estimated 10-year Atherosclerotic Cardiovascular Disease risk (ASCVD)?
2. What is the lifetime ASCVD risk?
3. What will be the estimated 10-year risk with smoking cessation, Statin Therapy, and blood pressure medication?

**Exercise 4:** Calculate the BMI, measure the WC and interpret it (use the scenario above). (5 minutes)

1. Calculate and interpret the BMI
2. Interpret the WC
3. Measure, calculate and interpret your or your friend's BMI and WC

<https://www.moh.gov.sa/en/HealthAwareness/MedicalTools/Downloads/SugarGuideMain.pdf>

See page 16.

**Exercise 5:** Assess the physical activity stage of change of your friend sitting next to you, using the attached assessment tool (**10 minutes**)

1. What is his stage of change?
2. What will be your goal?
3. What kind of strategies will you use?

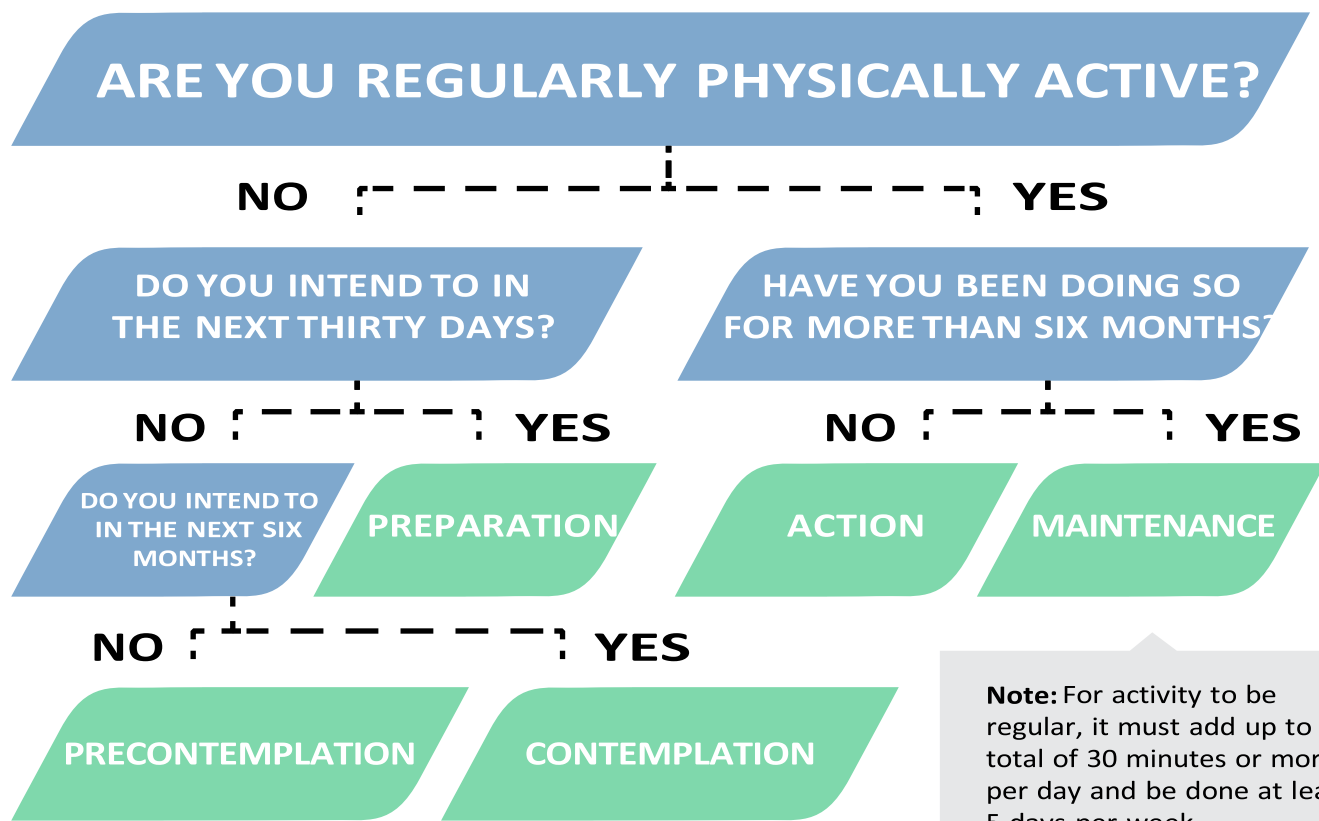
**Exercise 6:** Provide primary prevention advice regarding physical activity and healthy eating. (5 minutes)

<https://www.moh.gov.sa/OCP/Documents/001.pdf>

See chapter 1 pg 6-9

# PHYSICAL ACTIVITY STAGE OF CHANGE: ASSESSMENT TOOL

Patient readiness to participate in a physical activity program can be assessed using a brief series of questions. New flow chart please!



**Note:** For activity to be regular, it must add up to a total of 30 minutes or more per day and be done at least 5 days per week.

Once the patient's stage of change has been determined, it is possible to take appropriate action using the tailored strategies outlined in the table below.

STAGE OF CHANGE	GOAL	SPECIFIC STRATEGIES
Pre-contemplation	To get your patient thinking about physical activity	<ul style="list-style-type: none"> <li>Encourage your patient to learn more about physical activity</li> <li>Read articles, watch videos, and talk to others about physical activity</li> <li>Make a list of potential benefits to becoming physically active then assess how important these benefits are to him or her</li> </ul>
Contemplation	To encourage your patient to start being physically active	<ul style="list-style-type: none"> <li>Identify barriers to getting started (lack of time) and strategies for overcoming them (walking during lunch break)</li> <li>Develop a plan for getting started</li> <li>Set a small goal (5 mins a day) and commit to it</li> <li><b>If supervision is required, refer patient to an Accredited Exercise Physiologist for expert support</b></li> </ul>

<p><b>Preparation</b></p>	<p>To encourage your patient to be regularly physically active</p>	<ul style="list-style-type: none"> <li>• Have patient use a pedometer and/or activity logs to self-monitor physical activity and track progress towards goals</li> <li>• Encourage client to reward him/herself for meeting the goal of increased physical activity</li> <li>• Leave reminders to exercise everywhere (walking shoes by the door)</li> <li>• <b>If supervision is required, refer patient to an Accredited Exercise Physiologist for expert support</b></li> </ul>
<p><b>Action</b></p>	<p>To help your patient maintain this physical activity habit over time</p>	<ul style="list-style-type: none"> <li>• Identify any obstacles that might interfere with being active in the future, then develop a plan for how to overcome them</li> <li>• Encourage client to set goals for an event in the future (fun walk, 5km run)</li> <li>• <b>If supervision is required, encourage continued supervised exercise</b></li> </ul>
<p><b>Maintenance</b></p>	<p>To help your patient prepare for any future setbacks and increase enjoyment of physical activity</p>	<ul style="list-style-type: none"> <li>• Discuss how to get back on track after a break in physical activity</li> <li>• Make physical activity fun: try new activities; listen to music or watch TV while on treadmill; walk with a friend</li> <li>• Encourage patient to mentor someone else who is interested in becoming more physically active</li> <li>• <b>If supervision is required, encourage continued supervised exercise</b></li> </ul>



## MORE INFORMATION:

Exercise is Medicine Australia [www.exerciseismedicine.org.au/public/factsheets](http://www.exerciseismedicine.org.au/public/factsheets)

Exercise Right [www.exerciseright.com.au](http://www.exerciseright.com.au)

Find an Accredited Exercise Physiologist [www.essa.org.au](http://www.essa.org.au)