Perform Sufficient Level of Physical Activity

Recommendations	Grades of Recommendations^
1. Educate all on the benefits of physical activity, as well as the risks associated with sedentary behaviour and inactivity[1]	C
2. Advise all clients aged 18 or above to perform sufficient level of physical activities: (i) At least 150 minutes to 300 minutes of moderate-intensity aerobic physical activity per week; OR (ii) 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity per week; OR (iii) an equivalent combination of moderate- and vigorous-intensity physical activity achieving at least 600 MET-minutes throughout a week; AND (iv) muscle strengthening activities of moderate or greater intensity that involve all major muscle groups on 2 or more days a week for additional health benefits[2]	A
3. Advise pregnant women to perform sufficient level of physical activity, and educate on safety considerations according to stage of pregnancy	B
4. Advise post-menopause women to perform weight-bearing aerobic exercise and resistance training for bone health[3]	C

^ Scottish Intercollegiate Guidelines Network (SIGN) classification

Recommended Care Components

For Who?	Recommended Care Components[a]	By Whom?[b]	How Often?
Empowerment			
All	Educate on: ◆ Benefits of physical activity and risks associated with sedentary behaviour and inactivity[1] ◆ Physical activity recommendation according to age and life stages	Primary Healthcare Providers	Opportunistically
Pregnant women	Educate on the benefits of sufficient level of physical activity on maternal and perinatal health, and safety considerations according to stage of pregnancy (**Table 1.**)[2]	Primary Healthcare Providers	Opportunistically
Assessment			
All	Assess current **physical activity level** (i.e. Type, Intensity, Duration, Frequency)*[4]	Primary Healthcare Professionals	Opportunistically
	Screen for **symptoms or signs** suggesting increased risk for engaging in physical activities (**Table 2.**)		

For Who?	Recommended Care Components[a]	By Whom?[b]	How Often?
Management			
Women having any symptoms or signs suggesting **increased risk for engaging in physical activities**	Refer for further medical work up OR Provide work up	Trained Healthcare Professionals Doctors	As soon as symptoms reported or signs detected
Women with **insufficient physical activity**	Assess **readiness to change,** and provide **brief intervention** according to stage of change[5] (**Table 3.**) Advise to perform sufficient level of physical activities according to individual preference and capacity: ◆ At least 150 minutes to 300 minutes of moderate-intensity aerobic physical activity per week; OR 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity per week; OR an equivalent combination of moderate- and vigorous-intensity physical activity achieving at least 600 MET-minutes throughout a week **(Table 4.)** AND ◆ Muscle strengthening activities of moderate or greater intensity that involve all major muscle groups on 2 or more days a week for additional health benefits[2]aerobic exercise and resistance training for bone health[6] Follow up to ensure client is participating in physical activities safely and effectively[7]	Trained Healthcare Professionals	Opportunistically
Post Menopause women	Advise to do weight-bearing aerobic exercise and resistance training for bone health[6]	Trained Healthcare Professionals	Opportunistically

*Consider to use standardised, validated assessment instrument to assess adequacy of physical activity level

e.g. Global Physical Activity Questionnaire (GPAQ)

MET = Metabolic Equivalent of Task

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[a] **Grade of recommendation according to colour code**:

Recommended (Strong)	Conditionally recommended	Practice points	Generally not recommended	Not recommended (Strong)

[b]

Primary Healthcare Providers – All providers of health services in primary healthcare settings

Primary Healthcare Professionals – Includes doctors, dentists, chinese medicine practitioners, nurses, pharmacists, physiotherapist, occupational therapist, dietitians

"Trained" Healthcare Professionals – Additional post-qualification training required to deliver the respective care component(s)

Table 1. Safety Considerations of Physical Activity for Pregnant Women[2]

Additional Safety Considerations
Avoid activities in **supine position** after the first trimester of pregnancy
Avoid physical activity during ◆ excessive heat ◆ high humidity
Avoid participating in activities which ◆ involve physical contact ◆ pose a high risk of falling ◆ limit oxygenation

Table 2. Symptoms and Signs Suggesting Increased Risk for Physical Activity that Require for Medical Work-up prior to Participation*^

Clinical Features Suggesting High Risk for Physical Activity
◆ Pain, discomfort in the chest, neck, jaw, arms or other areas that may be due to ischaemia
◆ Shortness of breath at rest or with mild exertion
◆ Dizziness or syncope
◆ Orthopnoea or paroxysmal nocturnal dyspnoea
◆ Ankle oedema
◆ Palpitations or tachycardia
◆ Intermittent claudication
◆ Known heart murmur
◆ Unusual fatigue or shortness of breath with usual activities

* Adopted from the Pre-participation Health Screening and Risk Stratification[8]

^ These signs or symptoms must be interpreted within the clinical context in which they appear because they are not all specific for significant cardiovascular, pulmonary, or metabolic disease

Table 3. The Physical Activity Stage of Change and Suggested Next Step[5]

Stages	Description	Next Step
Pre-contemplation	◆ Not physically active now ◆ Does not intend to become more physically active in the next 6 months	Ask the patient if you can talk about physical activity in the future
Contemplation	◆ Not physically active now ◆ Intends to become more physically active in the next 6 months	Discuss and help the patient make a plan and set a start date
Preparation	◆ Physically active now ◆ BUT not to the recommended level	Help the patient make a plan and set a start date
Action	◆ Engaging in sufficient level of physical activity to the recommended level for less than 6 months	Ask if the patient is ready to start another healthy behaviour
Maintenance	◆ Engaging in sufficient level of physical activity to the recommended level for the past 6 months	

Table 4. MET Equivalents of Common Aerobic Activities and Energy Expenditures

Light-intensity Physical Activity			
		MET	Energy (Kcal)*
Walking	Slowly walking	2	60
Household Chore and Occupation	Sitting, using computer	1.5	45
	Standing performing light housework	2.5	75
Leisure and Sports	Arts & crafts, playing cards	1.5	45
	Playing most musical instrument	2.5	75
Moderate-intensity Physical Activity			
		MET	Energy (Kcal)*
Walking	Brisk Walking	4	120
Household Chore and Occupation	Sweeping floors or carpet	3.5	105
Leisure and Sports	Volleyball (Non-competitive)	4	120
	Table Tennis	4	120
	Golf (Walking pulling clubs)	4.3	129
	Badminton (Recreational)	4.5	135
	Tennis (Doubles)	5	150
	Cycling: light effort	5.9	180
	Swimming (leisurely)	5.9	180
Vigorous-intensity Physical Activity			
		MET	Energy (Kcal)*
Walking	Jogging	8	240
	Running	11	330
Household Chore and Occupation	Carrying heavy load as bricks	7.5	225
	Shovelling, digging ditches	8.5	255
Leisure and Sports	Tennis (Singles)	8	240
	Basketball	8	240
	Football (Casual)	7	210
	Football (Competitive)	10	300
	Cycling: moderate effort	8	240
	Swimming (Moderate)	8	240
	Swimming (Hard)	11	330

*For a 60 kg woman performs the activity last for 30 minutes

MET = Metabolic Equivalent of Task

Further Readings

- Physical inactivity poses detrimental effects on health. According to WHO, people who are insufficiently active have a 20% to 30% increased risk of death compared to those who are sufficiently active.[9] Sedentary lifestyle, defined as time spent sitting or lying with low energy expenditure while awake,[2] was strongly associated with disease risks including cardiovascular diseases, diabetes mellitus, hypertension, and cancer.[2]

- Regular physical activity of at least 150 to 300 minutes of moderate-intensity aerobic physical activity or at least 75 to 150 minutes of vigorous intensity aerobic physical activity per week[2] has been shown to help prevent chronic diseases such as diabetes mellitus and breast cancer in adults, and is related to a reduced risk of premature death.[10] Moreover, regular physical activity have been shown to reduce anxiety, depression, negative mood, and improve self-esteem and cognitive function, which also played a role on one's mental health and well-being.[10, 11]

- Of note, physical activity refers to any bodily movement produced by the contraction of skeletal muscles that increases energy expenditure above a basal level, and can be achieved through occupational, household, conditioning, sports, or other activities. Meanwhile, exercise refers to a subcategory of physical activities that is planned, structured, and repetitive, aiming to improve or maintain physical fitness. Adults who participate in ***any*** amount of physical activity would gain some health benefits.[12]

- Different types of physical activities work on different health-related components of physical fitness. Aerobic exercises require the use of large muscle groups which can be maintained continuously and rhythmically.[12] Activities such as running and swimming help improve body composition and cardiorespiratory fitness. Muscle-strengthening activities involve a moderate to high level of intensity that work the major muscle groups of the body, improving muscular fitness. Balance training such as Tai Chi strengthens balance control and reduces the chance of falling. Stretching activities can also improve flexibility and range of motion.[13]

- It must be cautioned that physical activities may pose risks to certain individuals with chronic conditions such as heart diseases and osteoporosis.[3, 14] Pre-participation health screen has been recommended.[8, 15, 16]

- Exercise prescription when tailored to client's preferences, abilities, and limitations, was demonstrated to result in moderate improvements in physical activity or fitness of clients over a period of 6 to 12 months. Among patients who received exercise prescription, 10% more experienced an increase in their physical activity levels compared to control group, and had a mean improvement in aerobic fitness of 5 to 10%.[17]

******The corresponding list of References is available on HKRF webpage******