

## 6.4.5. Irwin and Morgan Sample Risk Stratification Tool

### HEALTH PROMOTION

### RISK TOOL



By Dawn Irwin MSc and Oliver Morgan BEng (Hons) Msc

#### SCHEME DEVELOPMENT

In the central London borough of Kensington and Chelsea, the local Primary Care Trust has been working in collaboration with two existing exercise referral schemes and the local authority, to develop local exercise opportunities. The aim was to increase the number of people participating in regular exercise.

Our first step was to establish a working group, which included scheme managers, a general practitioner and representatives from the Primary Care Trust and local authority. Following an assessment of the existing schemes, the group identified the referral process as the most problematic stage of successful exercise referral schemes. We therefore decided that our first piece of work would be to look at how patients are currently referred. To do this we conducted telephone interviews with general practitioners and general practice nurses to find out what they needed to make better referrals. The respondents overwhelmingly replied that they wanted referral guidelines that they could use during a clinical consultation.

#### THE RISK STRATIFICATION TOOL

The group used the National Quality Assurance Framework (4) as the basis of the development process and also looked at examples of several different schemes across the UK. These schemes largely took a risk stratification approach, defining health conditions as high, medium and low risk. While we thought this provided a clear and easy way to consider risk, none of the examples contained sufficient

Exercise referral schemes exist in an evidence-free wilderness. The results from existing studies are inconclusive; a review by the Health Education Authority of physical activity promotion in primary care (1) suggested only limited evidence of effectiveness and two further reviews by Hillsdon and Thorogood (2,3) recommend that home-based activities may be better. So where can we draw on evidence in order to improve the effectiveness of existing schemes? This article looks at how one primary care trust developed its own risk stratification tool to improve the referral process to the existing referral schemes.

detail for the referring clinician to be able to categorise patients. For example, minor bone density changes represents low risk, but a diagnosis of osteoporosis with no history of fracture increases the risk to medium. When a history of previous low trauma fracture is factored into the equation, this represents high risk and therefore the patient is not suitable for the scheme, but for specialist referral into the Falls and Injury Prevention Exercise Service.

The sixth edition of the American College of Sports Medicine's Guidelines for Exercise Testing and Prescription (5) was used as a resource for evidence along with ACSM Position Stands on Osteoporosis (6), Type 2 Diabetes (7), Hypertension (8) and Older Adults (9). Other sources of guidelines included the Chartered Society of Physiotherapy Guidelines for the Management of Osteoporosis (10) and the British Association of Cardiac Rehabilitation (11).

#### USING THE TOOL

The tool takes the form of a simple traffic light system and is produced as a laminated A4 card. Basic information about the various schemes is printed on the reverse side and each scheme has also received a colour coding which corre-

sponds to the risk level that it can take. Finally, we have re-designed the referral forms so that clinicians can indicate the risk level of the condition for which they are referring.

#### OTHER DEVELOPMENTS

Currently a set of evidence based exercise protocols is being developed. These will form the basis of an exercise resource that will be available at each scheme, for use by the fitness instructors when programming exercise for referred patients. The success of these interventions will be assessed through the scheme's monitoring systems and periodic evaluations within general practice.

#### CONCLUSION

We expect that this risk stratification tool will help increase the confidence of clinicians to refer their patients to exercise referral schemes. In addition, an evidence based risk stratification tool is likely to make referrals safer and more effective.

#### References

1. Riddoch C, Puig-Ribera A, Cooper A. Effectiveness of physical activity promotion Schemes in primary care: a review. London: Health Education Authority, 1998
2. Hillsdon M, Thorogood M, Antiss T, Morris J.

| LOW RISK  |   |
|---|---|
| Overweight  | No complications  |
| High normal blood pressure  | (130-139/85-89) not medication controlled   |
| Deconditioned   | Due to age or inactive lifestyle  |
| Type 2 diabetes   | Diet controlled   |
| Older people aged >65   | No more than 2 CHD risk factors and NOT AT RISK OF FALLS  |
| Antenatal   | No symptoms of pre-eclampsia / no history of miscarriage  |
| Postnatal   | Provided 6/52 check complete and no complications   |
| Osteoarthritis  | Mild where physical activity will provide symptomatic relief  |
| Mild bone density changes   | BMD >1SD and <2.5 SD below young adult mean   |
| Exercise induced asthma   | Without other symptoms  |
| Smoker  | One other CHD risk factor & no known impairment of respiratory function.  |
| Stress/mild anxiety   |   |
| Seropositive HIV  | Asymptomatic  |
| MEDIUM RISK   |   |
| Hypertension Stage 1  | (140-159/90-99). Medication controlled  |
| Type 2 diabetes   | Medication controlled   |
| Type 1 diabetes   | With adequate instructions regarding modification of insulin dosage depending on timing of exercise, and warning signs  |
| Physical disabilities   | No other risk factors   |
| Moderate OA/ RA   | With intermittent mobility problems   |
| Clinical diagnosis Osteoporosis   | BMD -2.5 at spine, hip or forearm or ≥ 4 on FRACTURE index, with no history of previous low trauma fracture.  |
| Surgery - Pre and Post:   | General or Orthopaedic. NOT CARDIAC.  |
| Intermittent claudication   | No symptoms of cardiac dysfunction  |
| Stroke/TIA  | > 1 year ago. Stable CV symptoms. Mobile, no assistance required.   |
| Asthma  | Mild (ventilatory limitation does not restrain submaximal exercise)   |
| COPD  | Without ventilatory limitation but would benefit from optimisation of respiratory system mechanics and correction of physical deconditioning.                                 |
| Neurological conditions   | E.g. young onset Parkinson's Disease (stable); Multiple Sclerosis   |
| Early symptomatic HIV   | Moderately diminished CD4 cells, intermittent or persistent signs and symptoms e.g. fatigue, weight loss, fever, lymphadenopathy.   |
| Chronic Fatigue Syndrome  | Significantly deconditioned due to longstanding symptoms.   |
| Depression  | Mild or moderate.   |
| Fibromyalgia  | Associated impaired functional ability, poor physical fitness, social isolation, neuroendocrine and autonomic system regulation disorders.                                    |
| HIGH RISK   |   |
| Older people >65 years at risk of falls. Frail older people with osteoporosis and history of fracture | REFER DIRECT TO FALLS SERVICE (BMD >-2.5 at spine, hip or forearm in the presence of one or more documented low trauma or fragility fractures). REFER DIRECT TO FALLS SERVICE |
| Unstable and uncontrolled cardiac disease   |   |
| Claudication with cardiac dysfunction   |   |
| Orthostatic hypotension   | Fall SBP >20 mg/Hg or DBP >10 mg/Hg within 3 mins of standing.  |
| Stroke/TIA  | Recent (>3 months ago)  |
| Severe Osteoarthritis/ Rheumatoid arthritis   | With associated immobility.   |
| Type 1 or Type 2 Diabetes (Advanced)  | With accompanying autonomic neuropathy, advanced retinopathy.   |
| Moderate to severe asthma   | Where ventilatory limitation restrains submaximal exercise.   |
| COPD/emphysema  | With true ventilatory limitation  |
| AIDS  | With accompanying neuromuscular complications, severe depletion of CD4 cells, malignancy or opportunistic infection.  |
| Psychiatric illness/cognitive impairment/dementia   | AMT score < 8   |

Source: American College of Sports Medicine (2002). Guidelines for Exercise Testing and Prescription, Sixth Edition (2000); American College of Sports Medicine Position Stands Osteoporosis (1995), Hypertension 1993; Older Adults 1998, Type 2 Diabetes; RCP Guidelines for the Prevention and Treatment of Osteoporosis (1999)

# HEALTH PROMOTION

## EXERCISE REFERRAL SCHEME - RISK STRATIFICATION

| LOW RISK POPULATIONS                                    |  |   |  |
|---|--|---|--|
| <b>Definition:</b>                                      |  | People with minor, stable physical limitations or 2 or less CHD risk factors (see below).     |  |
| <b>Exercise Setting:</b>                                |  | Exercise Referral Schemes or other community leisure setting                                  |  |
| MEDIUM RISK POPULATIONS                                 |  |   |  |
| <b>Definition:</b>                                      |  | People with significant physical limitations related to chronic disease or disability.        |  |
| <b>Setting:</b>   |  | Exercise Referral Schemes or other community leisure setting.                                 |  |
| HIGH RISK POPULATIONS                                   |  |   |  |
| <b>Definition:</b>                                      |  | People with current severe disease or disability. Not suitable for Exercise Referral Schemes. |  |
| <b>Setting:</b>   |  | Secondary and Tertiary Health Care settings ONLY  |  |
| EXERCISE REFERRAL SCHEMES                               |  |   |  |
| <b>Low</b>  | <b>Medium</b>  | Kensington Leisure Centre   | Walmer Road, W11 4PQ<br>Tel: 020 7727 9747     |
| <b>Low</b>  | <b>Medium</b>  | Chelsea Sports Centre   | Chelsea Manor St SW7 5PL<br>Tel: 020 7352 6985 |
| <b>Low</b>  | <b>Medium</b>  | Portobello Green Fitness Centre   | 3-5 Thorpe Close W10 5XL<br>Tel: 020 8960 2221 |
| REHABILITATION AND TERTIARY EXERCISE SERVICES           |  |   |  |
| <b>High Risk</b>  |  | Cardiac Rehabilitation*   | Kensington & Chelsea PCT                       |
|   |  | Established Osteoporosis **   | Tel: 020 8237 2535                             |
|   |  | Falls Risk ***  |  |
| CHD RISK FACTORS  |  |   |  |
| <b>Family history</b>                                   | <55 male; <65 female   |   |  |
| <b>Cigarette smoking</b>                                | Current or given up within past 6/12   |   |  |
| <b>Hypertension</b>                                     | ≥ 140/≥ 90   |   |  |
| <b>Hypercholesterolaemia</b>                            | Total > 5.2 mmol/L OR HDL <0.9 mmol/L OR LDL > 3.4 mmol/L  |   |  |
| <b>Sedentary lifestyle</b>                              | Not meeting minimum recommendation ≥ 30 mins moderate physical activity every day  |   |  |
| <b>Obesity</b>  | BMI ≥ 30 kg/m <sup>2</sup> or waist girth > 100 cm   |   |  |
| <b>Impaired Fasting Glucose</b>                         | ≥ 6.1 mmol/L   |   |  |
| CONDITIONS INDICATING CARDIAC REHABILITATION - PHASE IV |  |   |  |
| <b>Angina</b>   | Stable and controlled with no pain at rest   |   |  |
| <b>CABG</b>   | If successful operation and has been discharged from Phase III   |   |  |
| <b>Arrhythmias</b>                                      | Provided full cardiologist screening and approval  |   |  |
| <b>Valvular Heart disease</b>                           | Provided full cardiac screen and approval  |   |  |
| <b>Congestive Cardiac Failure</b>                       | Stable, on medical therapy without absolute contraindications (particularly obstruction to left ventricular outflow, decompensated CHF or threatening arrhythmias and have an exercise capacity of > 3 METs) |   |  |

\* At present there is no provision within K&C PCT for Phase IV Cardiac Rehabilitation Exercise Services. Patients who present with any of the conditions overleaf who have associated cardiac problems require special consideration.

\*\* See FRACTURE Index Screening Tool

\*\*\* See Falls Risk Assessment Screening Tool

Randomised controlled trials of physical activity promotion in free living populations: a review. *Journal of Epidemiology Community Health* 1995;49:448-453

3. Hillsdon M, Thorogood M. A systematic review of physical activity promotion strategies. *Journal of Sports Medicine & Physical Fitness* 1996; 30:84-89

4. Exercise Referral Schemes: A National Quality Assurance Framework. *Department of Health* 2001

5. American College of Sport Medicine's Guidelines for Exercise Testing and Prescription Sixth edition. *ACSM* 2000

6. Osteoporosis and Exercise. American

College of Sports Medicine's Position Stand *MSSE* 1995;27(4):pp.i - vii

7. Exercise and Type 2 Diabetes. *American College of Sports Medicine Position Stand*

8. Physical Activity, Physical Fitness and Hypertension. *American college of Sports Medicine Position Stand. MSSE* 1993;25(10):ppi - x

9. Exercise and Physical Activity for Older Adults. *American College of Sports Medicine Position Stand. MSSE* 1998;30:6

10. Guidelines for the Management of Osteoporosis. *Chartered Society of Physiotherapy and National Osteoporosis Society* 1999

11. British Association of Cardiac Rehabilitation: Guidelines for Cardiac Rehabilitation. *Blackwell Science* 1995

Dawn Irwin MSc and Oliver Morgan BEng (Hons) Msc

*Dawn Irwin is a senior clinical exercise practitioner and the falls prevention and exercise development co-ordinator for Kensington and Chelsea Primary Care Trust. Oliver Morgan is a multi-disciplinary public health specialist working in Kensington and Chelsea Primary Care Trust.*