Level 3 Diploma in Exercise Referral

REVISION NOTES – Medical Conditions/Activity Guidelines

HYPERTENSION

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| **Pathophysiology and signs/symptoms** | **Blood pressure > 140/90**  Asympotomatic headaches  Nose bleeds  General malaise  Flushed appearance |
| **Progression of pathophysiology and signs/symptoms** | **Damage to blood vessels, heart, kidneys, eyes.**  **Increased risk of CHD, CVD and PAD.** |
| **Modifiable and non-modifiable risk factors** | **Modifiable** – sedentary lifestyle, obesity, smoking, alcohol, excessive salt intake, poor diet, hypercholesterolaemia, type 2 diabetes  **Non-modifiable** – age, family history, genetics, ethnicity |
| **Drug treatments – effects and side effects** | Beta-blockers   * reduces heart rate * reduces contractility * cannot use age-predicited HR * limited HR response * increased lactate accumulation * muscle cramps/pains * shortness of breath * premature fatigue * need to increase duration, reduce intensity * longer warm up and cool down   Alpha-blockers   * blocks alpha I receptors (noradrenaline) * reduces hypertension * reflex tachycardia * hypotension * premature fatigue   Diuretics   * reduce venous return by increased urination * dehydration * muscle weakness/cramps   ACE inhibitors   * stop angiotensin I and angiotensin II in RAA system * no exercise implications   Calcium channel blockers   * vasodilator * reduce heart contractility * reflex tachycardia * no age-predicted max HR |
| **Surgical/therapeutic interventions** | **Improve modifiable risk factors** - sedentary lifestyle, obesity, smoking, alcohol, excessive salt intake, poor diet, hypercholesterolaemia, type 2 diabetes.  Physical activity  Healthy diet  Relaxation |
| **Lifestyle modifications** | **Increase physical activity**  **Healthy diet (e.g. reduce salt intake)** |
| **Benefits of exercise** | Increased blood flow to muscle  Improved capillarisation  Increased number and size of mitochondria in muscle cells  Increased myoglobin  **Lowered resting and sub-maximal blood pressure**  Manage body weight |
| **Exercise risks** | Postural hypotension  Overexertion  Effects of medications  Co-morbidities |
| **Exercise guidelines** | **Extended warm up and cool down**  **Avoid isometric exercises**  **Avoid prolonged, heavy or repetitive overhead work**  **Low-moderate intensity**  Encourage correct breathing  Avoid valsalva manoeurve |