Level 3 Diploma in Exercise Referral

REVISION NOTES – Medical Conditions/Activity Guidelines

HYPERTENSION

|  |  |
| --- | --- |
| **Pathophysiology and signs/symptoms** | **Blood pressure > 140/90**Asympotomatic headachesNose bleedsGeneral malaiseFlushed 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 activityHealthy dietRelaxation |
| **Lifestyle modifications** | **Increase physical activity****Healthy diet (e.g. reduce salt intake)** |
| **Benefits of exercise** | Increased blood flow to muscleImproved capillarisationIncreased number and size of mitochondria in muscle cellsIncreased myoglobin**Lowered resting and sub-maximal blood pressure**Manage body weight |
| **Exercise risks** | Postural hypotensionOverexertionEffects of medicationsCo-morbidities |
| **Exercise guidelines** | **Extended warm up and cool down****Avoid isometric exercises****Avoid prolonged, heavy or repetitive overhead work****Low-moderate intensity**Encourage correct breathingAvoid valsalva manoeurve |