

Causes of an elevated CK

Possible causes

Cardiac muscle

Infarction

Myopathy

Myocarditis

Skeletal muscle

Injury/Trauma

Crush, Surgery, IM injections, Ischaemia

Alcohol

Acute/Chronic alcohol excess

Drugs

Statins, Amphotericin B, Azathioprine, Chloroquine, Clofibrate, Colchicine, Cyclosporin, Opioids, Steroids, Vincristine, Verapamil, Proton Pump Inhibitors

Infections

Influenza, Coxsackie A and B, Clostridia, *Streptococcus pyogenes*, Parasitic infestations

Endocrine

Hypothyroidism, Hyperthyroidism, Steroid myopathy

Metabolic

Hypokalaemia, Vitamin D deficiency, Carnitine deficiency, Carnitine Palmitoyl-transferase deficiency, Hypoparathyroidism, Myophosphorylase deficiency, Mitochondrial disorders

Autoimmune

Polymyositis, Dermatomyositis

Exercise

Severe exertion, Marathon run, Convulsions, Paroxysmal myoglobinuria

Heat stroke

Malignant hyperpyrexia

Muscular dystrophy

Miscellaneous

Macro-CK (request CK electrophoresis)

Malignancy

Cerebrovascular disease

Diabetic ketoacidosis

Useful further tests

Troponin

Serum LD and AST

CK-Isoenzymes, CK electrophoresis

Urinary myoglobin

Autoimmune immunology

DNA tests for muscular dystrophy