

CONTENTS

	Page
Introduction	1
Anatomy and physiology	4
- Development, growth and regeneration of skeletal muscle.....	5
-Light microscopy of skeletal muscle fibers	9
-Fine structure of skeletal muscle fibers	10
Muscle contraction and relaxation.	17
Energy sources of muscle contraction	19
Neuromuscular junction	21
- Morphology	21
- Development of the neuromuscular junction.	23
- Motor nerve endings.	25
- Acetylcholinesterase	27
- Clinical implications	29
Myotonia	32
Myotonic muscular dystrophy	32
- Pathophysiology	34
- Pathology and clinical picture	35
Myotonia congenita	40
Paramyotonia congenita and Myotonia Fluctuans	40
Treatment	42
Anesthetic management	42
Myasthenia gravis	46
Pathophysiology	49
-Clinical presentation of MG.	51
-Eaton lambert syndrome	54
-Classification of myasthenia gravis	57
-Diagnosis of MG.....	57
-Treatment of MG.....	59
-Anesthetic management	64
Malignant hyperthermia	70
- Definition	70
- Clinical picture	70
- Pathophysiology	71
- Triggering of malignant hyperthermia.....	81
- Genetics	85
- Diagnosis	85
- Testing for malignant hyperthermia.....	87

- Association with other disorders	91
- Treatment	92
- Anesthesia for susceptible patients.....	96
Muscular dystrophy	98
- Duchenne's muscular dystrophy	98
┐ Pathophysiology	99
┐ Pathology	99
┐ Clinical picture	100
┐ Clinical implications.....	103
┐ Treatment	104
- Becker's dystrophy	107
- Emery drefiuss dystrophy	108
- Rigid spine syndrome	108
- Facioscapulohumeral (FSH)	109
- Limb girdle dystrophy	110
- Distal myopathy.....	111
- Oculopharyngeal muscular dystrophy.....	111
Mitochondrial myopathies	113
Kearns-sayre syndrome (KSS), sporadic progressive External ophthalmoplegia (PEO).	114
Myoclonic epilepsy with ragged red fibers (MERRF).	115
Myopathy encephalopathy, lactic acidosis and stroke (MELAS).	116
Leigh's syndrome (subacute necrotizing encephalomyelopahty).	116
Weakness syndrome in the critically ill	117
Channelopathies.....	120
Voltage- sensitive sodium channelopathies	120
Voltage- gated calcium channelopathies	121
Anesthetic consideration.....	122
Summary and conclusion	124
References	133-152