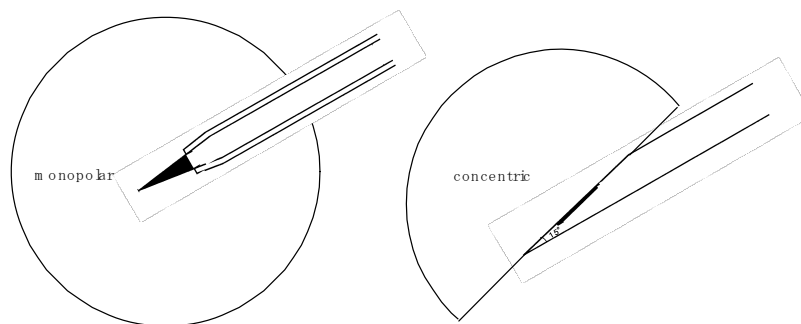


EMG FINDINGS

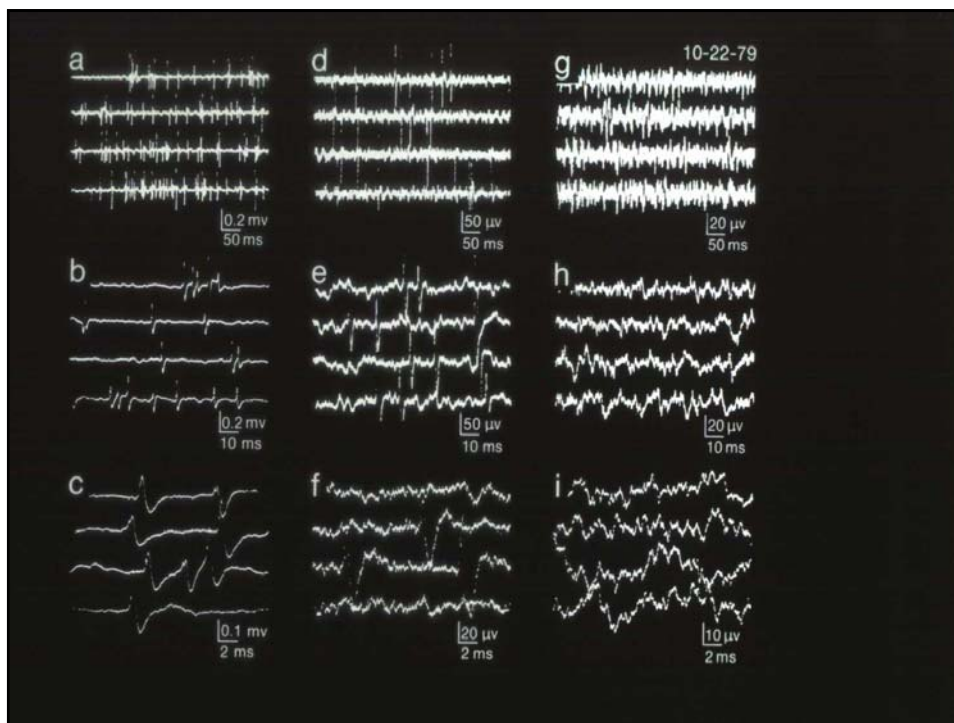
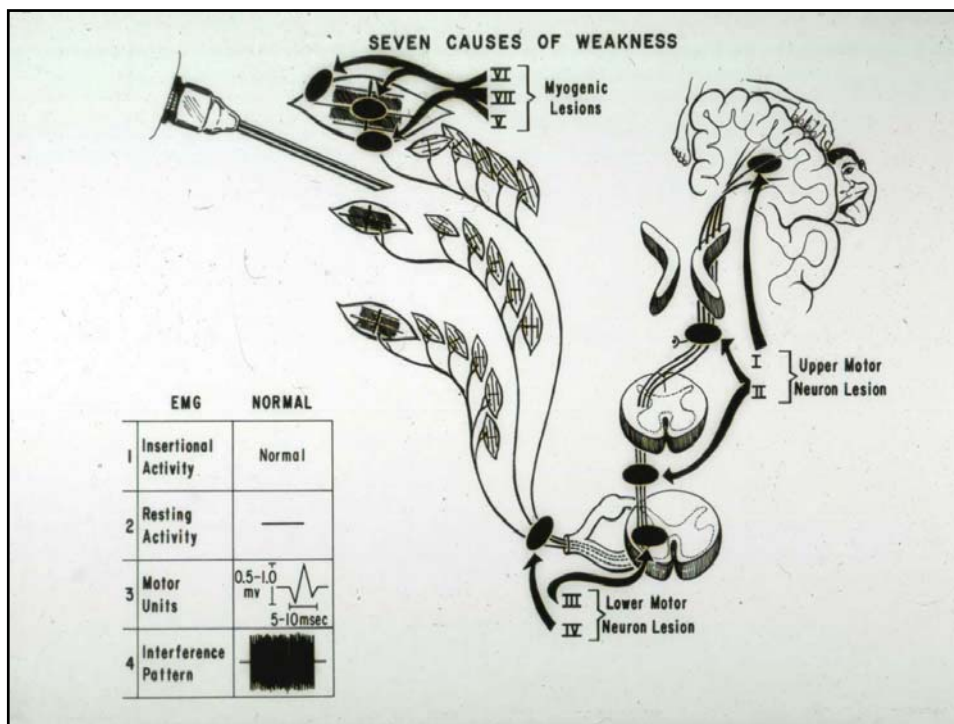
LESION EMG	NORMAL	NEUROGENIC LESION		MYOGENIC LESION		
		Lower Motor	Upper Motor	Dystrophy	Myotonia	Polymyositis
1 Insertional Activity	Normal	↑	Normal	Normal	Myo. Discharge 	↑
2 Resting Activity	—	Fibrillation Pos. Potential 	—	—	—	Fibrillation Pos. Potential
3 Motor Units	0.5-1.0 mv 5-10msec 	Giant Unit 	Normal 	Small Units 	Myo-Discharge 	Small Units
4 Interference Pattern						

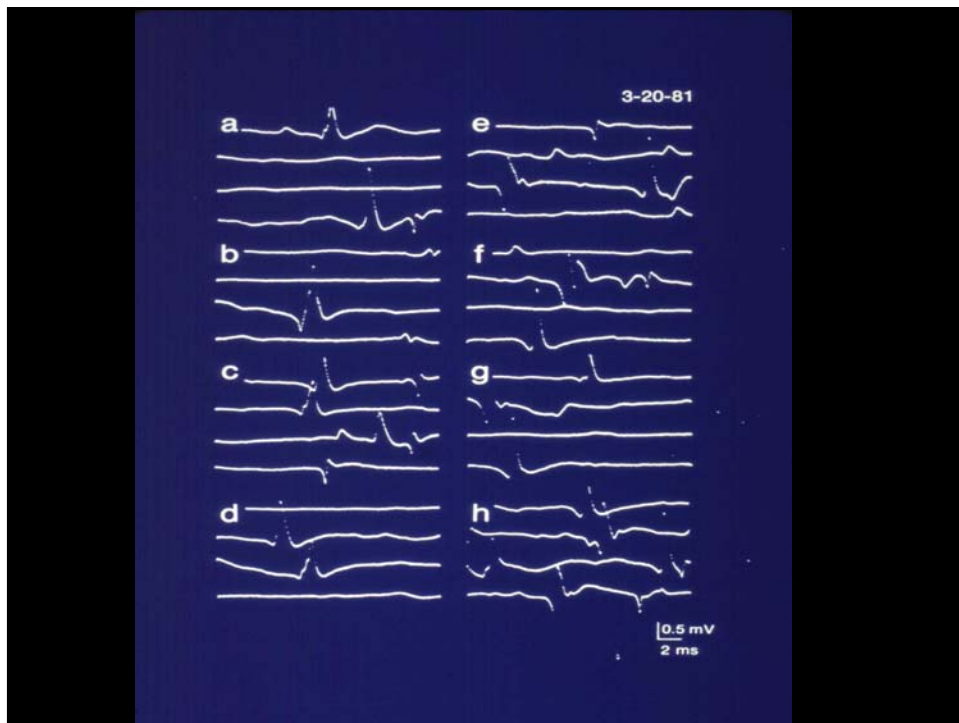
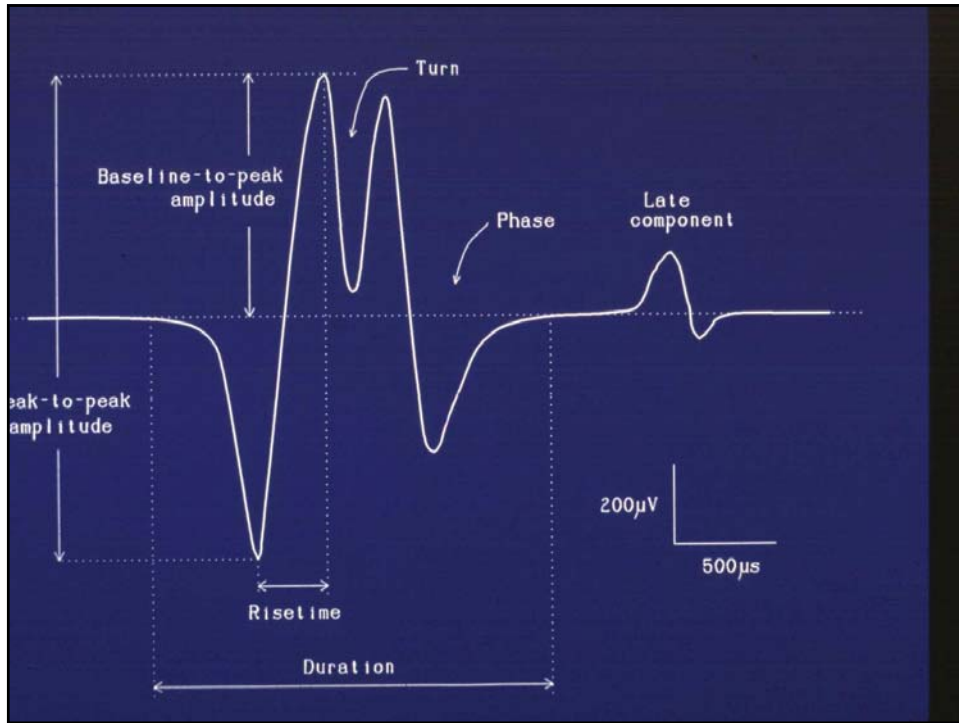
針電極の記録範囲



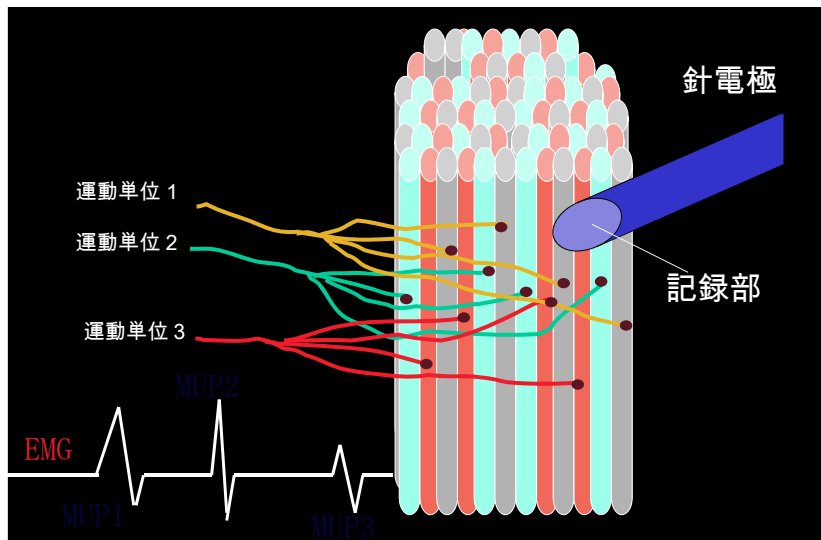
monopolarの方が広い範囲を記録する

電極の周囲の数本の筋線維の電位が大きく反映される





運動単位電位の動員 (力を入れる)

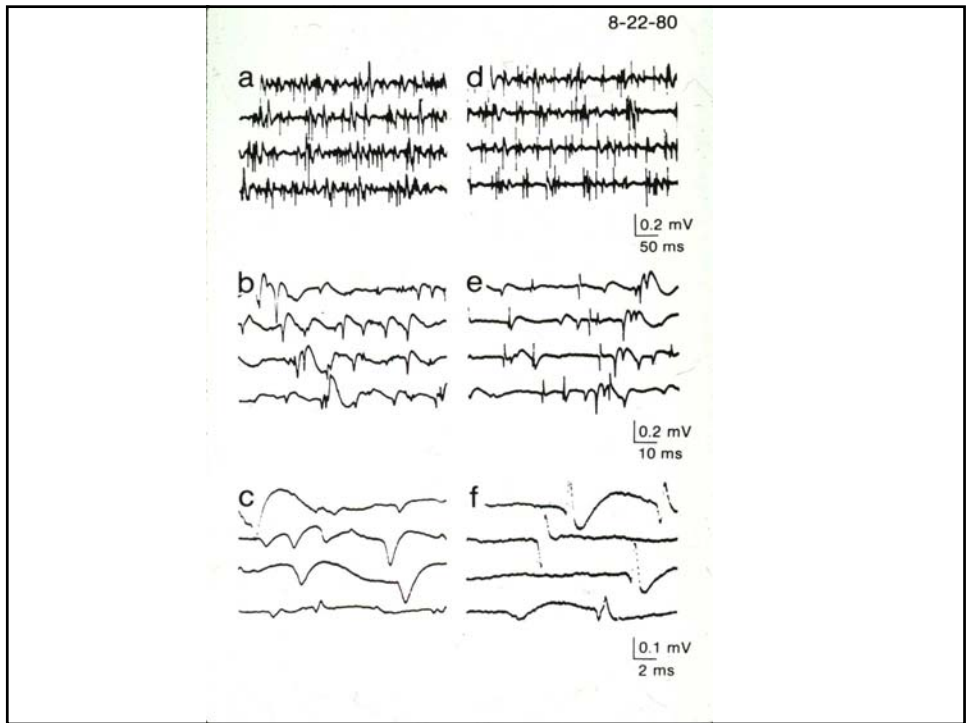
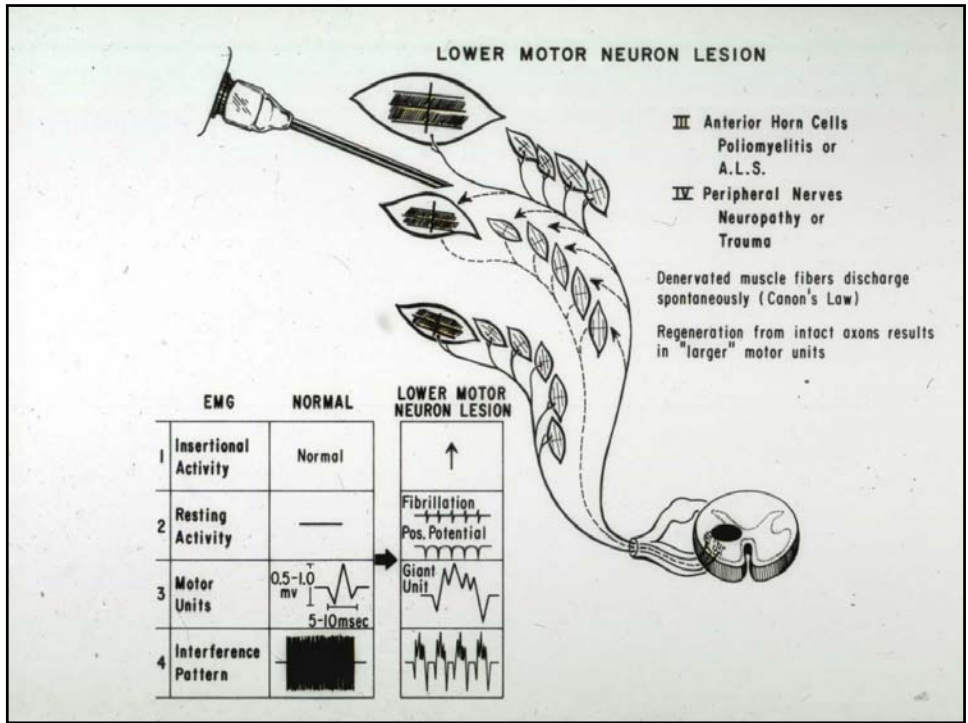


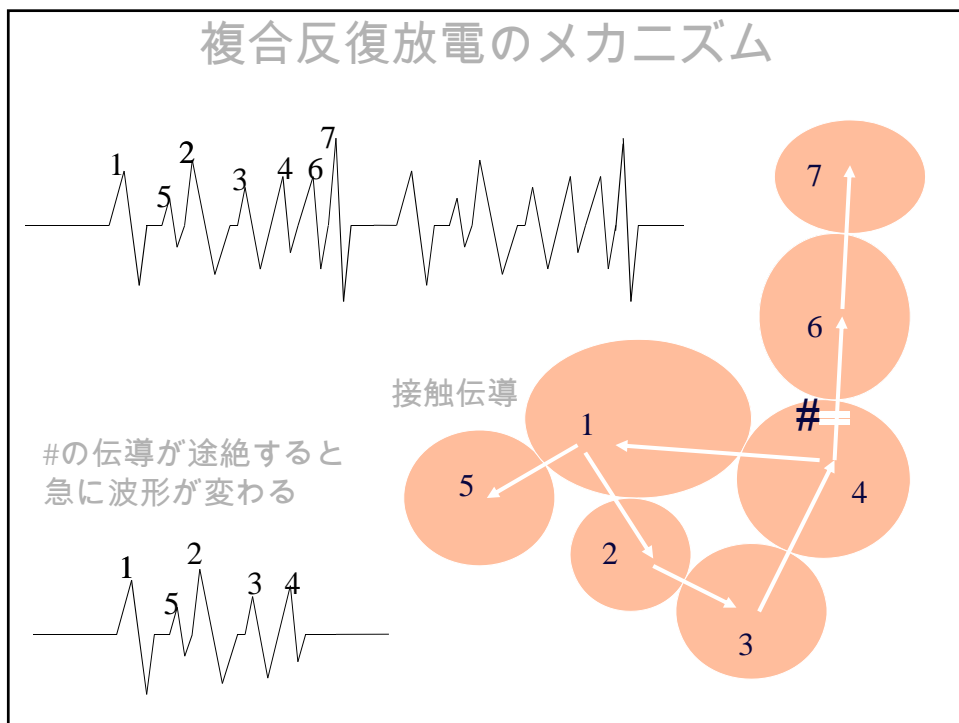
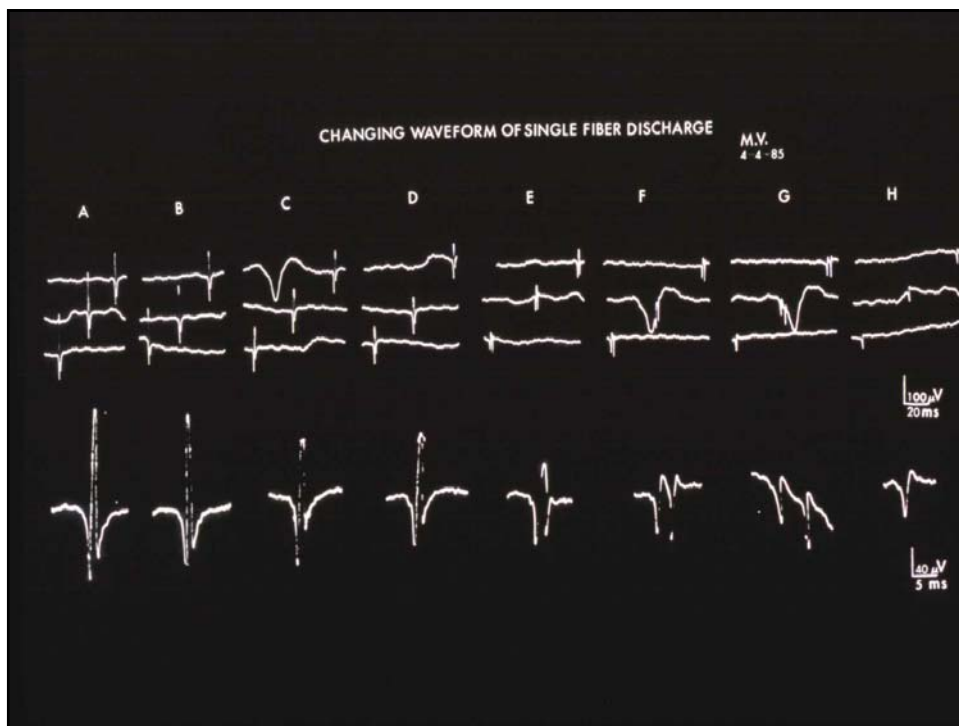
UPPER MOTOR NEURON LESION

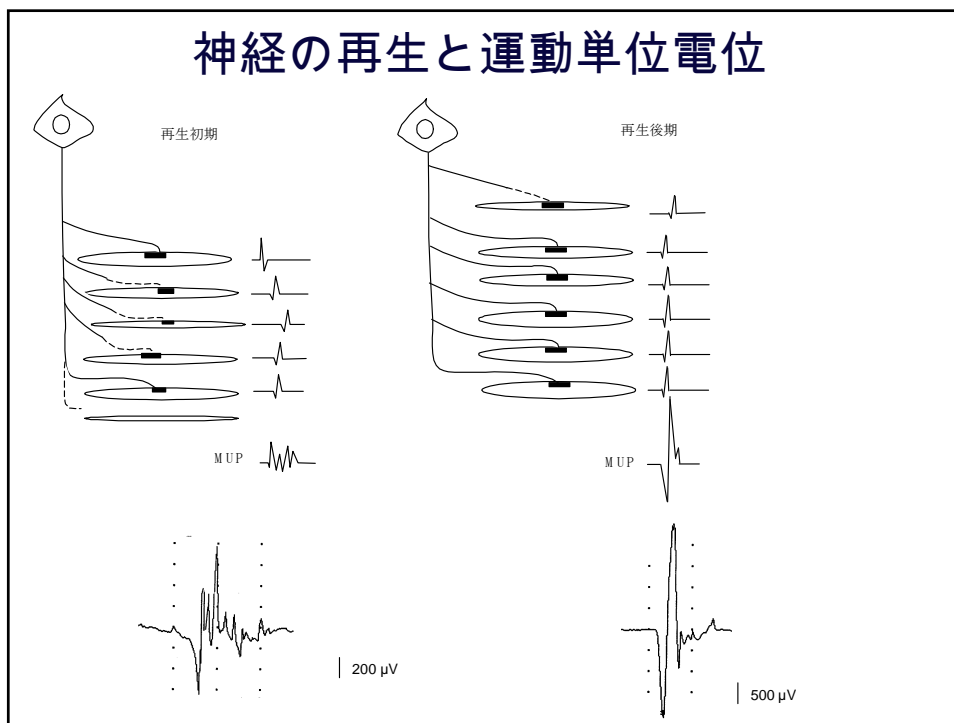
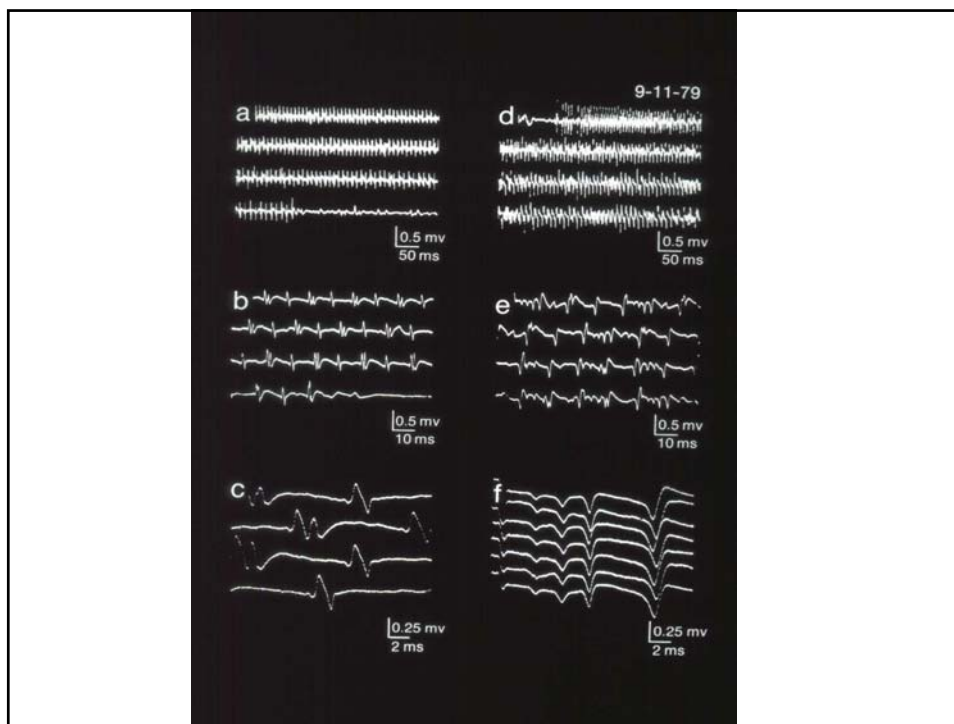
I Cerebral Cortex
C.V.A.
Neoplasm
Trauma etc.

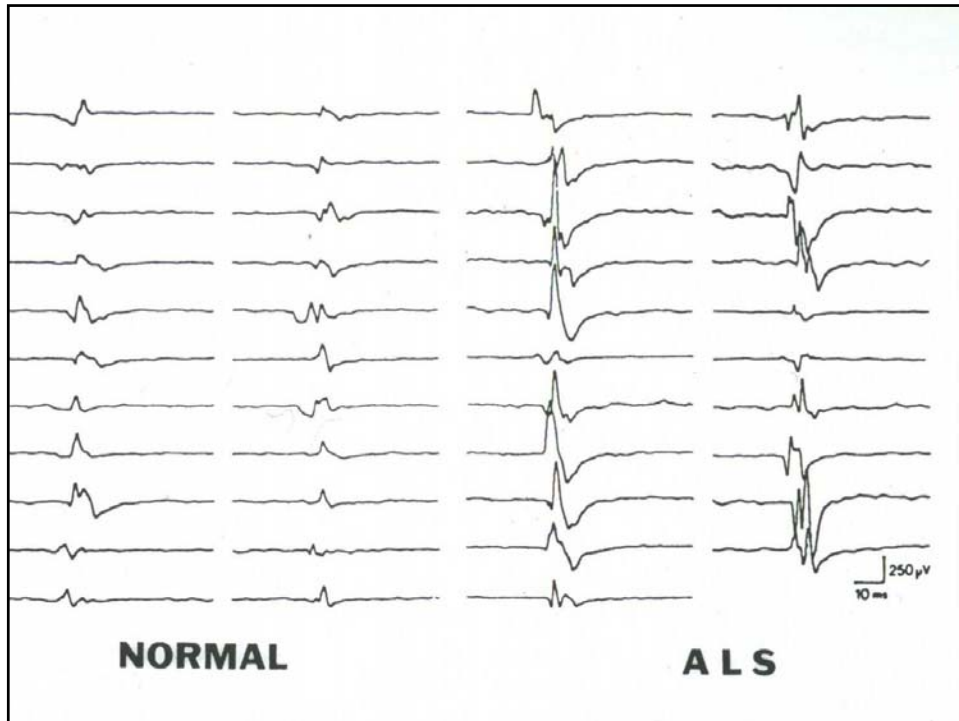
II Corticospinal Tract
Syringomyelia
Neoplasm
Trauma etc.

	EMG	NORMAL	UPPER MOTOR NEURON LESION
1	Insertional Activity	Normal	Normal
2	Resting Activity	—	—
3	Motor Units	0.5-1.0 mv 5-10msec	Normal
4	Interference Pattern		





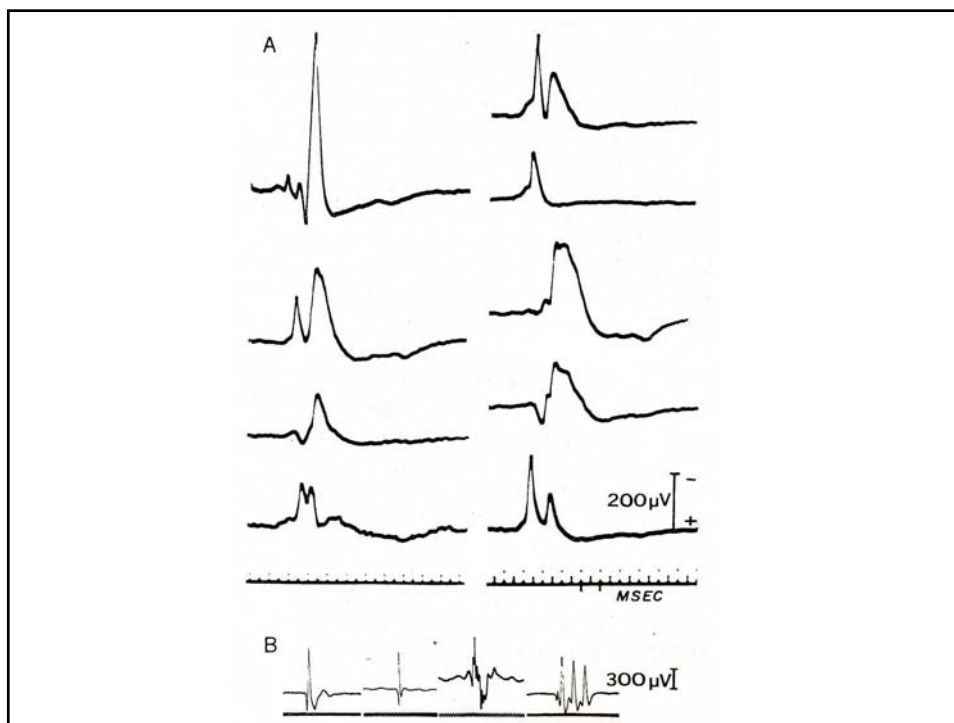
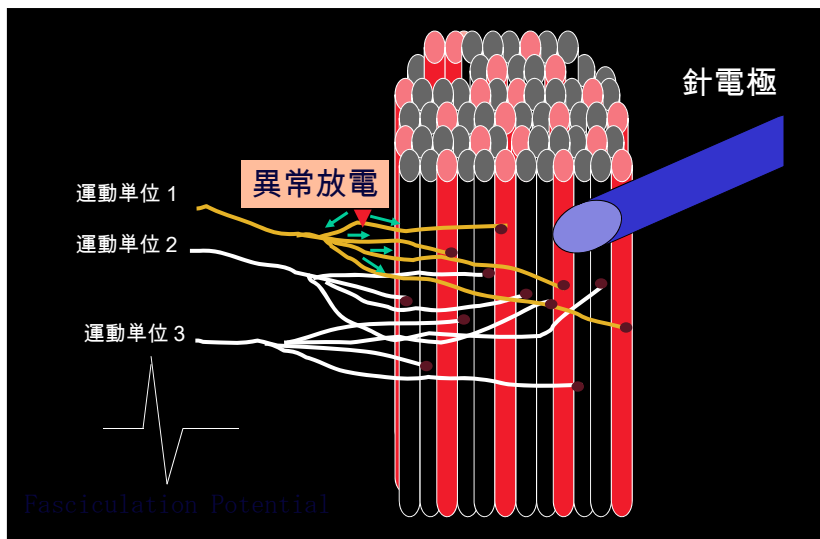


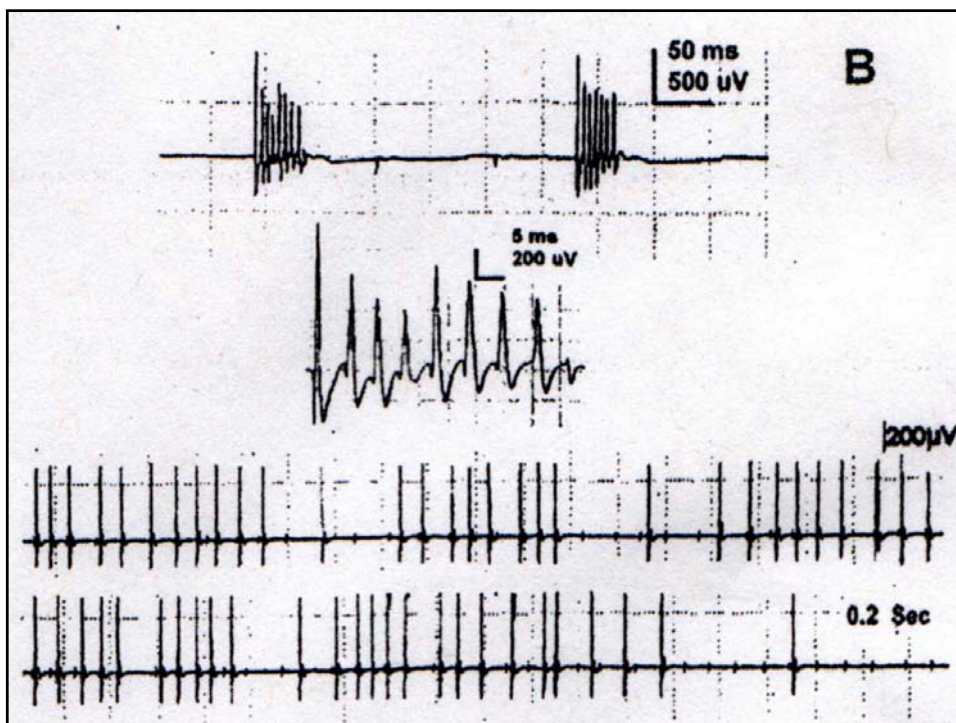
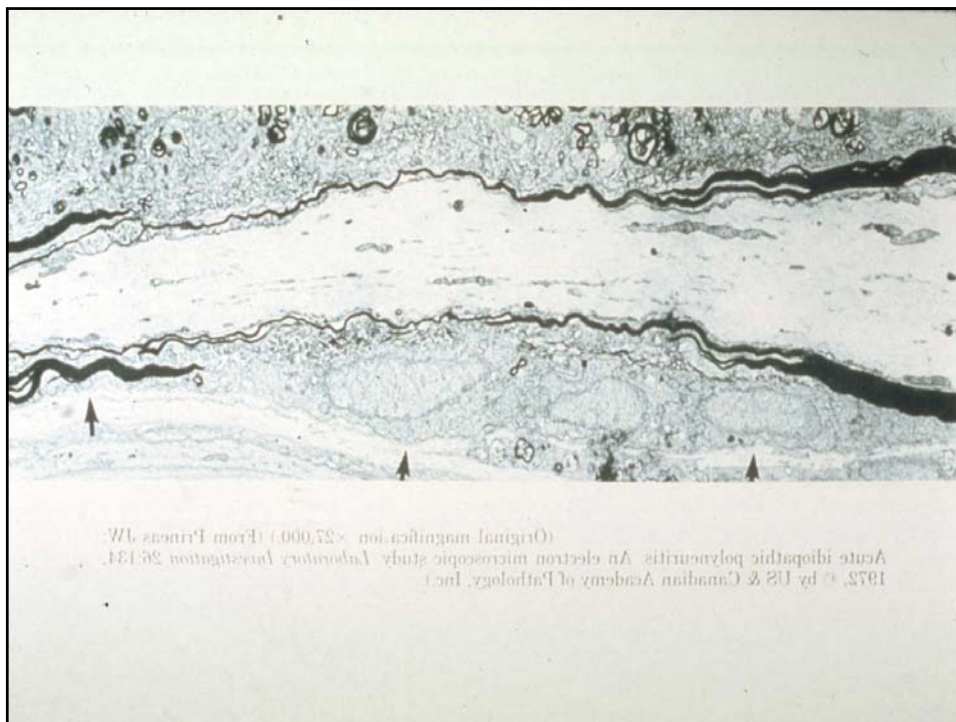


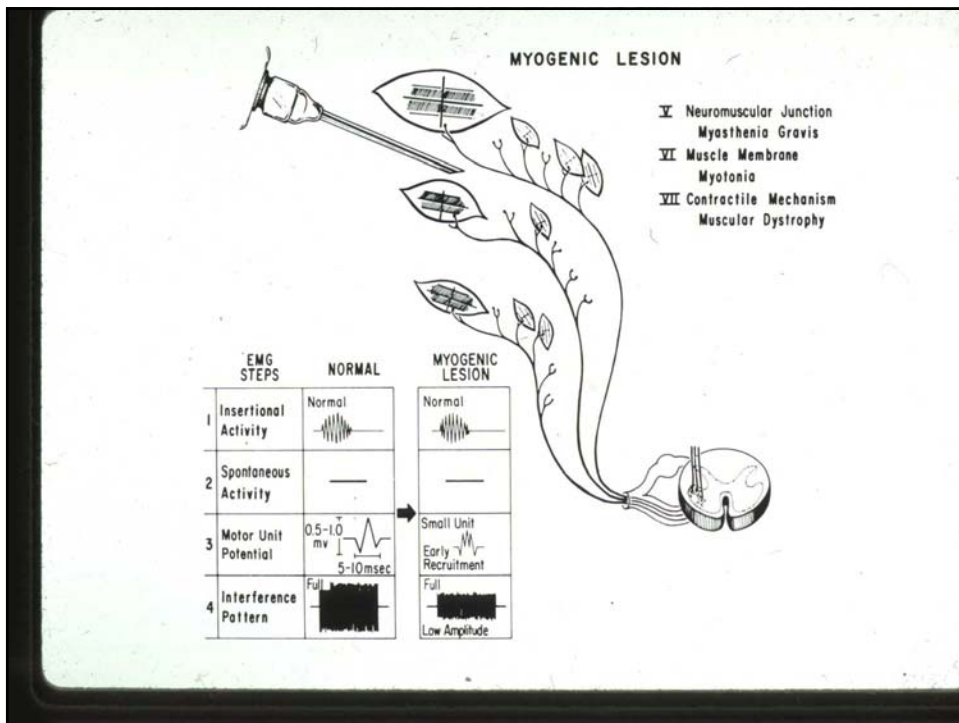
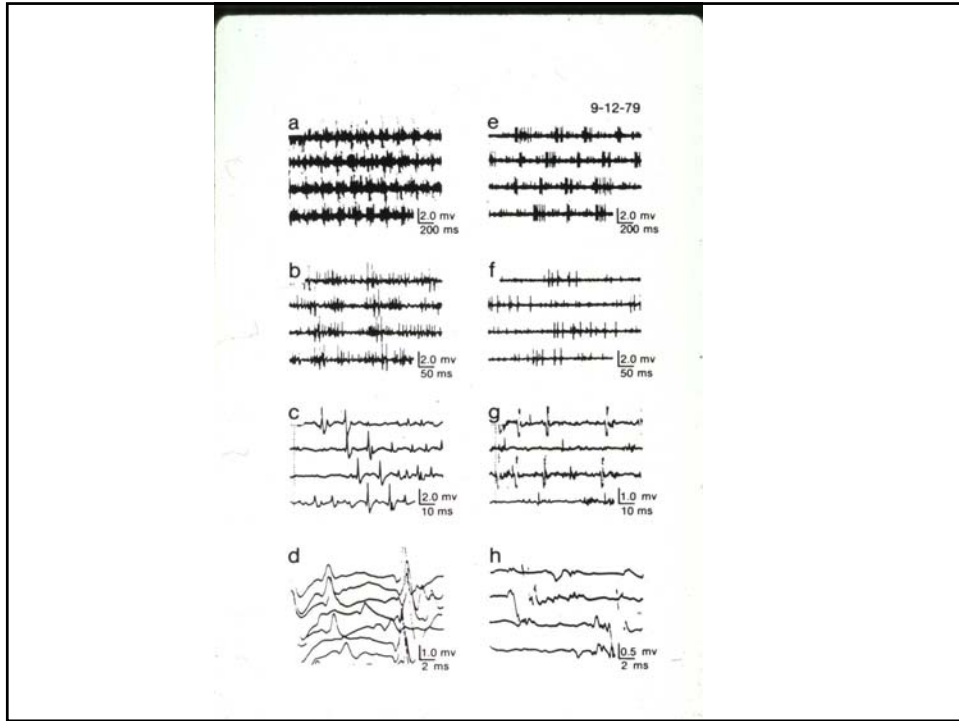
Long Duration, Large Amplitude, Late Recruitment

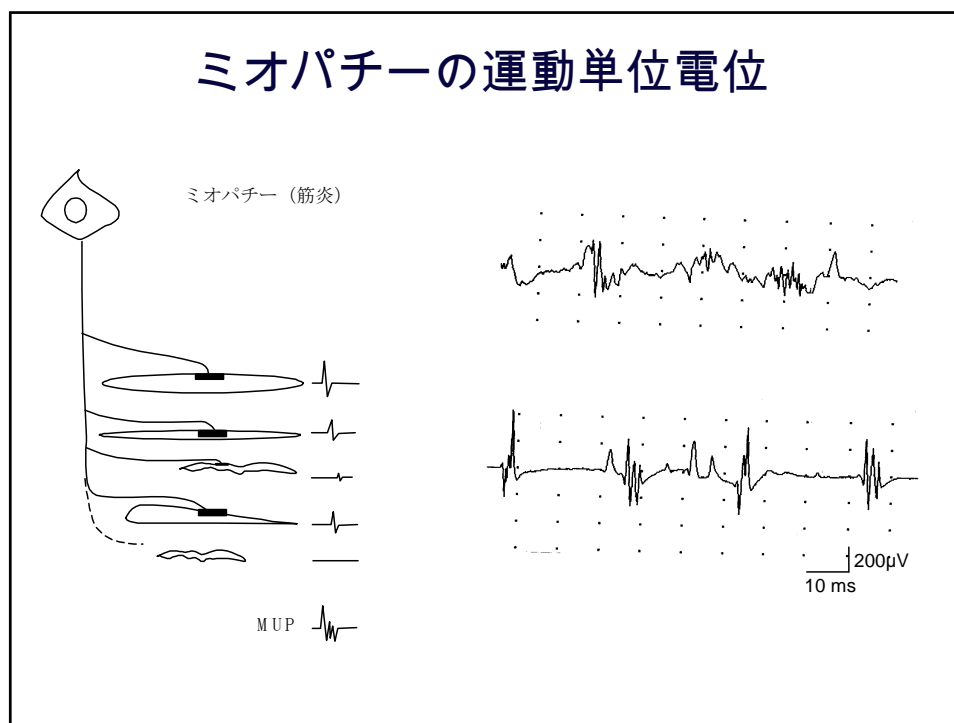
- Motor Neuron Disease
- Radiculopathies
- Plexopathies
- Polyneuropathies
- Entrapment Syndromes

運動単位が関連する自発放電





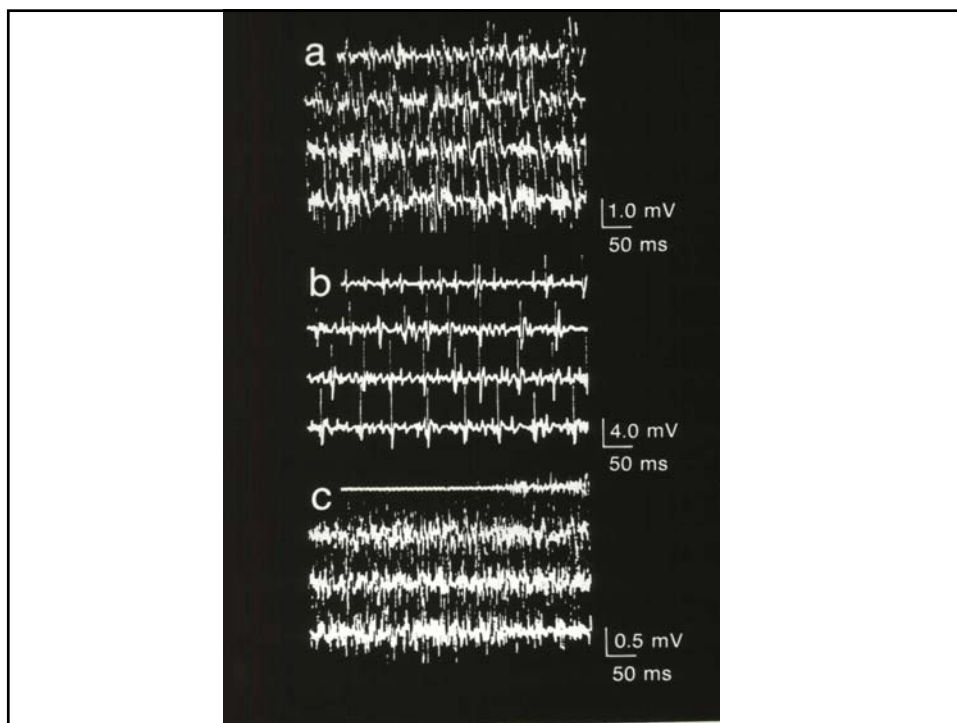
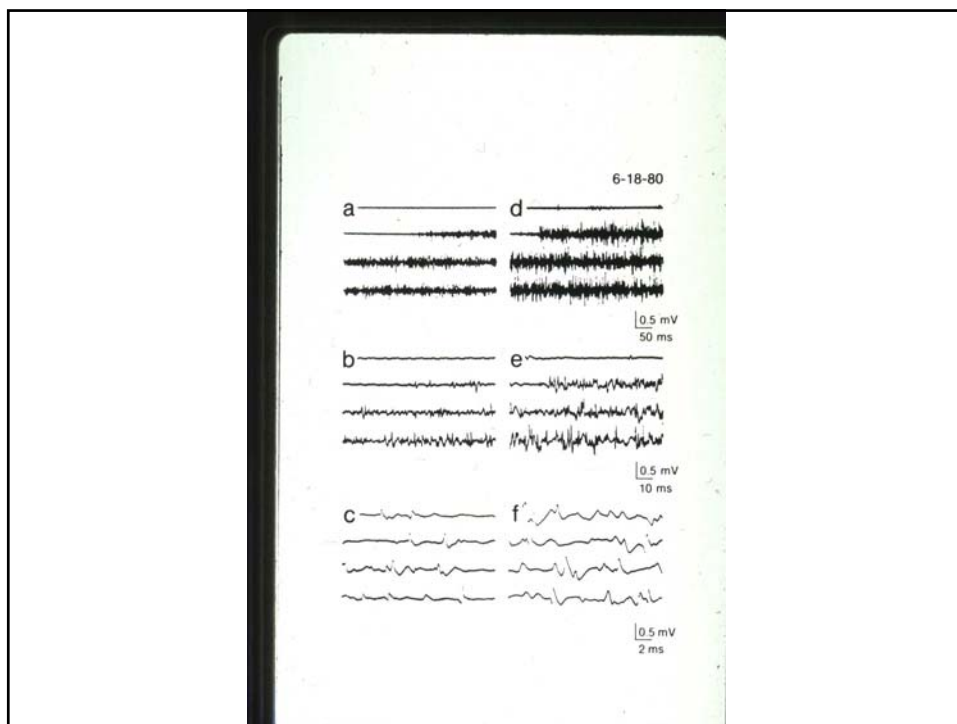




TYPES OF MOTOR UNIT POTENTIALS

brief Duration, Small Amplitude, Early Recruitment

- Muscular Dystrophy
- Congenital Myopathy
- Metabolic Myopathy
- Endocrine Myopathy
- Myositis
- Myasthenia Gravis
- Myasthenic Syndromes



1) *Muscle Fiber*

- Insertional Positive Waves
- Myotonic Discharge
- Fibrillation Potential
- Positive Sharp Waves
- Complex Repetitive Discharge
- End-plate Noise
- End-plate Spikes

2) *Lower Motor Neuron*

- Fasciculation Potential
- Myokymic Discharge
- Neuromyotonic Discharge
- Cramp Discharges
- Hemifacial Spasm
- Hemimasticatory Spasm

3) *Upper Motor Neuron*

- Stiffman Syndrome
- Involuntary Movement

COMMON TYPES OF SPONTANEOUS DISCHARGES

- 1) *Fibrillation Potentials and Positive Sharp Waves*
 - Neuropathic Condition
 - Muscular Dystrophy
 - Myositis

- 2) *Complex Repetitive Discharges*
 - Motor Neuron Disease
 - Radiculopathy
 - Chronic Polyneuropathy
 - Polymyositis
 - Muscular Dystrophy
 - Myxedema
 - Schwarz-Jampel Syndrome

- 3) *Fasciculation Potentials*
 - Motor Neuron Disease
 - Radiculopathy
 - Entrapment Neuropathy
 - Muscular Pain – Fasciculation Syndrome
 - Healthy Subjects

- 4) *Myokymic Discharges*
 - Guillain-Barré Syndrome
 - Radiation Plexopathy
 - Spinal Stenosis
 - Nerve Root Compression
 - Bell's Palsy
 - Multiple Sclerosis
 - Syringobulbia