



권 검 일

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Main references

- ✓ Deuschl et al. Mov Disord. 1998;13 Suppl 3:2-23.
- ✓ Thenganatt et al. Expert Rev Neurother. 2012 Jun;12(6):687-96.
- ✓ Edwards et al. Continuum (Minneap Minn). 2013 Oct;19(5 Movement Disorders):1213-24.
- ✓ Louis. Continuum (Minneap Minn). 2016 Aug;22(4 Movement Disorders):1143-58.

- ✓ *Personal opinion from my experiences*

C.C) “떨려요”

Face/head

Arm/hand

Leg/foot

I will focus on common “떨려요”s

Face

Eyelid myokymia
(benign fasciculation syndrome)
Hemifacial spasm

Arm/hand

Enhanced physiologic tremor
-Thyrotoxicosis-associated tremor
Essential tremor
Parkinsonian tremor
Drug-induced tremor
* **Myoclonus**

Drug-induced tremor

TABLE 2-2 Common Causes of Drug-Induced Tremor

- ▶ **Rest Tremor (and Parkinsonism)**
 - Dopamine receptor-blocking drugs
 - Dopamine-depleting drugs (eg, tetrabenazine)
 - Sodium valproate
 - Lithium
 - Amiodarone
 - Calcium channel blockers
- ▶ **Postural/Kinetic Tremor**
 - Beta-agonists (eg, salbutamol)
 - Anticonvulsants (especially sodium valproate)
 - Thyroxine
 - Lithium
 - Tricyclic antidepressants
 - Caffeine
 - Nicotine
 - Cocaine
 - Amphetamines

위장관 운동 조절 약물	Levosulpiride, Metoclopramide, Clebopride
정신증상 치료 약물	Haloperidol, Chlorpromazine, Perphenazine, Fluphenazine, Risperdone, Olanzapine, Sulpiride, Ziprasidone, Aripiprazole, Promethazine, Prochlorperazine, Pimozide, Lithium
편두통 및 어지럼증 치료약	Flunarizine, Cinnarizine
경련 (뇌전증) 치료약	Valproic acid, Phenytoin
기타	Amiodarone, Reserpine, Tetrabenazine, Verapamil
주의가 필요한 약물	Itopride, Motilitone

“눈/얼굴이 떨려요”

Eye lid myokymia
(benign fasciculation syndrome)

vs.

Hemifacial spasm

Reassurance & Observation

**Botox
Medication
Decompression**

“머리/입/턱이 떨려요”

Isolated?

ET tremor vs. PD tremor ?

Head tremor

Jaw/tongue tremor

Chin tremor

Current Medicines?

팔/손이 “떨려요”?

- Tremor: an involuntary, rhythmic oscillatory movement of a body part (common onset modes: subacute or chronic)
- Myoclonus: a brief, involuntary twitching of a muscle of a group of muscles (common onset modes: acute or subacute)

Classification of tremor

Resting tremor

Action tremor

Postural tremor

Kinetic tremor

Intentional tremor

Isometric tremor

“팔/손이 떨려요”

Rhythmic ?

Enhanced physiologic tremor
-Thyrotoxicosis-associated tremor
Essential tremor
Parkinsonian tremor
Drug-induced tremor

Jerky?

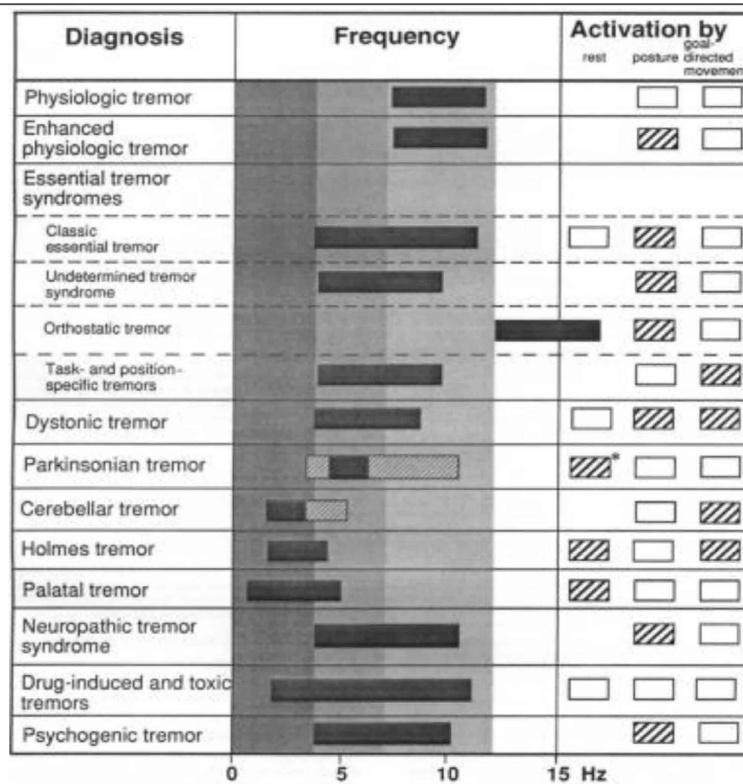
Myoclonus
- Drug-induced myoclonus

Sudden & abrupt onset? r/o Functional tremor !

"Rhythmic oscillation in hand/arm"

Amplitude/ Frequency

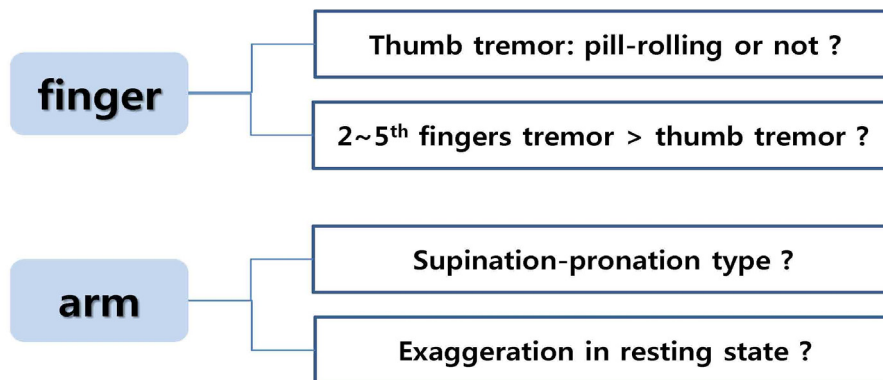
Enhanced physiologic tremor
-Thyrotoxicosis-associated tremor
Essential tremor
Parkinsonian tremor
Drug-induced tremor



Evaluation of resting tremor

Resting tremor
- **Asymmetric or not?**

Parkinsonian tremor



Other causes of resting tremor

- Drug-induced parkinsonism including resting tremor
 - Antipsychotics, some anti-emetics (e.g., metoclopramide and levosulpiride), lithium, sodium valproate, amiodarone, calcium channel blocker (mainly cinnarizine and flunarizine)**
- Multiple system atrophy, spinocerebellar ataxia(SCA) types 2 and 3
- Essential and dystonic tremor
 - never seen as an isolated rest tremor
- Peripheral neuropathy
- Brainstem lesions (Holmes or rubral tremor) or basal ganglia lesions

Evaluation of postural tremor

Postural tremor
- **Wrist vs. fingers ?**

Enhanced physiologic tremor
-Thyrotoxicosis-associated tremor
Essential tremor
Drug-induced tremor/myoclonus

finger

Amplitude: fine or not ?

Frequency: medium or high(&irregular) ?

arm

Flexion-extension type ?

Wing-beating tremor ?

Evaluation of kinetic tremor

Kinetic tremor
- **Exaggerated, or not ?**

Essential tremor
Enhanced physiologic tremor
-Thyrotoxicosis-associated tremor
Drug-induced tremor/myoclonus

Finger to nose test

- Intentional tremor?!

Writing

Holding an object

Clinical Tremor Rating Scale

오늘은 기분이 참 좋습니다.

오른손



왼손



신경과 척도

신경과 척도



신경과 척도

Global Deterioration Scale (GDS)	Download
한국판 치매상태 설문지(KDSC)	Download
INSTRUMENTAL ADL	Download
K-MMSE (Korean version of Mini-Mental State Exam)	Download
이상운동 척도 (Rating Scales of Movement Disorders 1st Edition)	Download
STROKE Scale	Download
근력약화증상(척도검사)	Download
팔조작장애 증상 척도(검사)	Download
팔조작장애 척도(검사(환자용))	Download
팔조작장애 척도(검사(의사용))	Download
Clinical Dementia Rating (CDR)	Download

Fahn S, Tolosa E, Martin C. Clinical rating scale for tremor. In Jankovic J, Tolosa E, eds: Parkinson's Disease and Movement Disorders. Baltimore, Williams and Wilkins;1993:271-280.

"다리/발이 떨려요"

Resting leg tremor
- PD or Drug ?

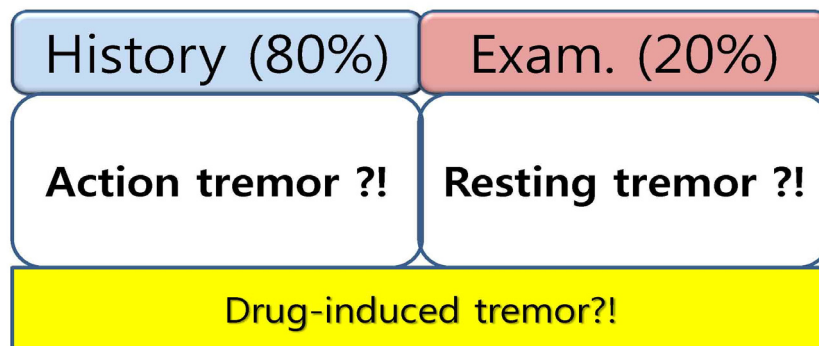
Parkinsonian tremor
Drug-induced tremor
(Orthostatic tremor)
✓ RLS with PLMD?

Question: 낮에요 or 밤에 잘 때요?

Asymmetric resting leg tremor ?

Fully resting / specific position

Clinical field: ET vs PD ?



Real practice

Thank you for your attention!