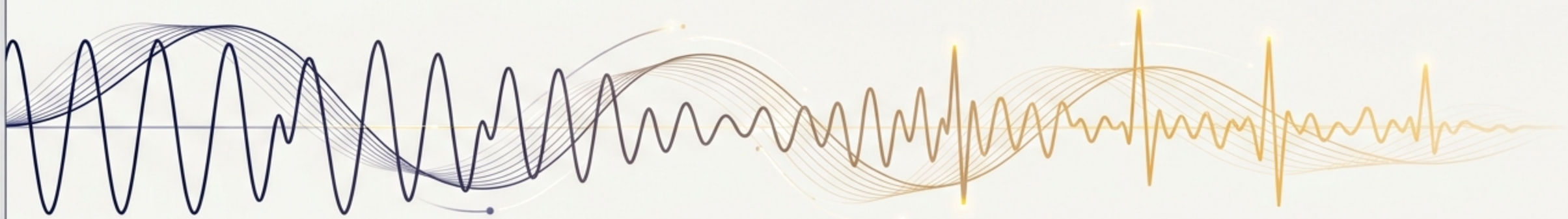
Clinical Reference: PsychoPharmRef

Target: Psychiatrists & Medical Professionals

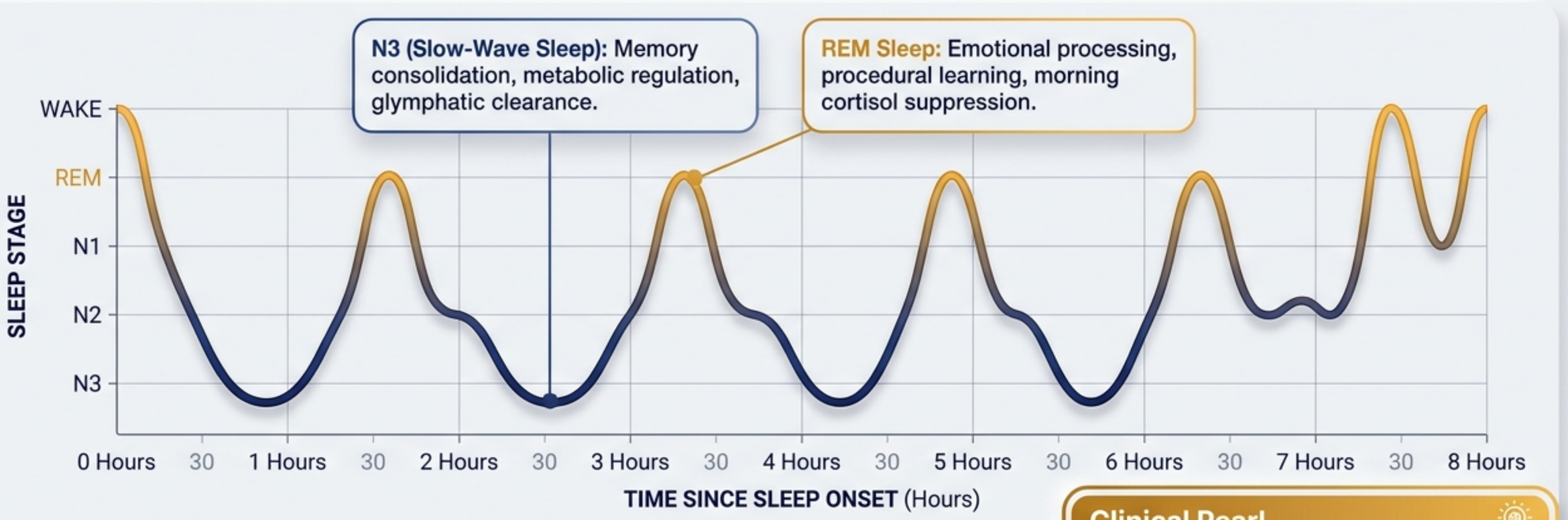
Focus: Standalone Diagnostic & Treatment Tool

Insomnia: The Clinical Decision-Making Blueprint

Evidence-based phenotyping, treatment pathways, and psychiatric integration.



NORMAL SLEEP ARCHITECTURE: ULTRADIAN RHYTHMS & FUNCTIONAL IMPLICATIONS



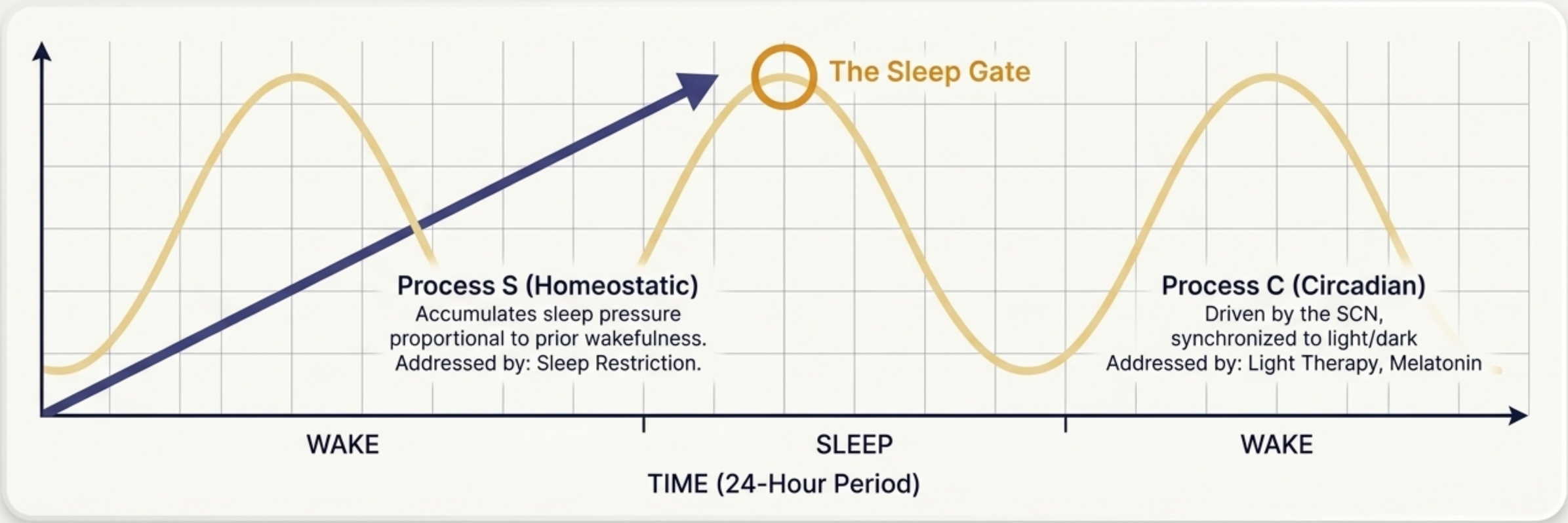
eREM Sleep

NREM sleep: Sleep, alem inniting, conrtɯrmenting, procedural learning, morning cortisol suppression.

Clinical Pearl

Insomnia is a dissociation between sleep opportunity and sleep production. It is both a standalone primary disorder and a cardinal symptom of psychiatric illness.

THE TWO-PROCESS MODEL: HOMEOSTATIC & CIRCADIAN SLEEP DRIVE



The Two-Process Model explains why sleep-onset insomnia often results from circadian phase misalignment, while early morning awakening reflects circadian advancement. Interventions must target the correct biological process.

INSOMNIA PHENOTYPES: SPATIAL TIMELINES & CLINICAL RISKS

Sleep Onset Insomnia

Prolonged latency. Associated with: Anxiety, racing thoughts, circadian delay.

Sleep Maintenance Insomnia

Frequent nocturnal awakenings. Associated with: OSA, PLMD, depression, PTSD.

Terminal Insomnia

Early morning awakening. Associated with: Major depression, bipolar, advanced phase.

0 Hours 1 Hours 2 Hours 3 Hours 4 Hours 5 Hours 6 Hours 7 Hours 8 Hours

Time in Bed

CLINICAL RISKS & METRICS

Severity Marker

Sleep Efficiency <85%

Mortality Risk

Total Sleep Time <6h

Clinical Reality

30-50% show mixed phenotypes

First-Tier Foundation: Sleep Hygiene Parameters

Environment

- **Temperature:** 65-68°F (18-20°C)
- **Darkness:** <5 lux (blackout)
- **Quiet:** <30 dB (white noise)

Schedule & Behavior

- **Consistent** wake times (±30 min)
- **Naps:** <20 min, <3 PM
- **Morning bright light:** 10+ lux

Substances (The Red Zone)

- **Caffeine:** Half-life 5-6h. Cutoff ≥6 PM. Peak effect 30-60m.
- **Alcohol:** Impairs architecture, reduces REM density, triggers middle-night rebound. Avoid within 3-4h of sleep.

Sleep Hygiene is passive and preventive. It is a necessary foundation, but rarely sufficient as monotherapy for chronic insomnia.

OTC SUPPLEMENTS: SPECTRUM OF EFFICACY & MECHANISM

Circadian Synchronizers

Melatonin (0.5-10 mg):
MT1/MT2 agonist.
Best for phase disorders.
Timing: 30-120 min pre-sleep.
Safe, non-habit forming.

Neuromodulators

- Magnesium (200-400 mg):
NMDA antagonist/GABA support.
Caution: Laxative >400 mg.
(Glycinate/threonate preferred).

- L-Theanine (100-200 mg):
Increases alpha waves, reduces glutamate. Safe, non-sedating.

Herbal Sedatives

- Valerian Root (400-900 mg):
GABA/Serotonin effects.
Weak RCT data. Hepatotoxicity risk at high doses.

- Passionflower/Hops: Mixed RCT data. Often combined.

Clinical Pearl: OTC agents are adjuncts, not primary treatments for moderate/severe insomnia. Always screen for MAOI/SSRI interactions.

The 6-8 Week CBT-I Protocol: A Structured Cycle

Relaxation Training

Progressive muscle relaxation, diaphragmatic breathing to reduce presleep arousal.

Sleep Diary

Baseline tracking. Calculates efficiency (TST ÷ TIB).

Sleep Restriction

Target >85% efficiency.

Stimulus Control

Bed ≠ Awake.
Rule: Leave bed if awake >20 min.
Return only when sleepy.

Cognitive Restructuring

Challenge perfectionism ('Must get 8 hrs') and sleep catastrophizing. Utilize paradox techniques.

Meta-analyses show CBT-I produces medium-to-large effect sizes (0.6-1.2), with long-term remission rates exceeding hypnotic hypnotic medications.

The Pharmacotherapy Matrix

Medication Class	Mechanism	Onset	Advantage	Risk/Limit
Benzodiazepines (triazolam, temazepam)	GABA-A	15-30m	Fast/Cheap	High dependence, tolerance. Short-term only.
Z-Drugs (zolpidem, eszopiclone)	GABA-A α1	15-30m	More selective	Habituation, complex sleep behaviors.
DORAs (suvorexant, lemborexant)	OX-R antagonist	30-60m	No dependence risk	Preferred for maintenance.
Melatonin Agonists (ramelteon)	MT1/MT2	30-45m	Safe/No abuse	Best for phase disorders.

⚠ **Critical Warning: Screen for sleep apnea before initiating any sedating agent.**

Off-Label Psychiatric Medications as Hypnotics

Tricyclic Antidepressants

Examples: Amitriptyline, Doxepin

Mechanism: Antihistaminergic.

Use Case: Depression + Insomnia.

Risk: Tolerance over months; anticholinergic effects limit use in elderly.

Atypical Antipsychotics

Examples: Quetiapine, Olanzapine

Mechanism: Histamine antagonism.

Use Case: Adjunctive in bipolar/psychosis.

Risk: Metabolic risks. Not first-line for primary insomnia.

SSRIs

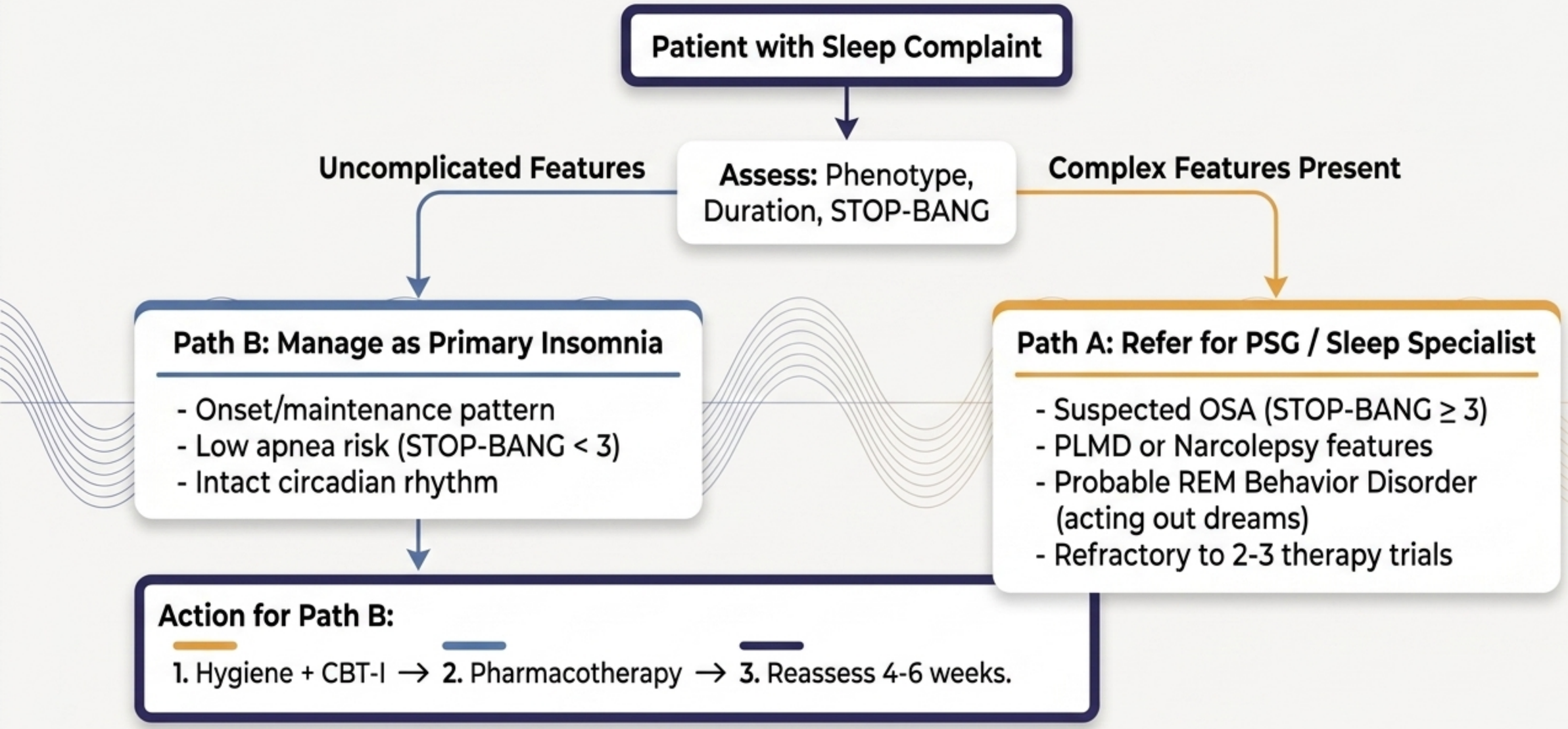
Examples: Paroxetine

Mechanism: Mild sedation (10-20mg).

Use Case: Primary depression with sleep complaint.

Risk: Takes 2-4 weeks; avoid in bipolar depression. Not true hypnotic efficacy.

Referral Triage Algorithm



The PSG Diagnostic Matrix

Disorder	PSG Signature	Clinical Pearls
OSA	AHI ≥ 5 (≥10 sec airflow cessation).	Daytime somnolence may be absent. Screen via STOP-BANG.
Central Sleep Apnea	Central apnea index ≥ 5 (no respiratory effort).	Associated with heart failure, opioid use.
PLMD	Leg movement index ≥ 15/hr.	Often comorbid with OSA/RLS. Check iron.
RBD	Loss of REM atonia with chin EMG elevation.	Prodrome for synucleinopathy (Parkinson's).
Narcolepsy Type 1	Sleep latency < 8 min; SOREM(s); CSF hypocretin-1 < 110 pg/mL.	Associated with Excessive Daytime Sleepiness (EDS), cataplexy.

Psychiatric Comorbidities: Mood Disorders

Major Depressive Disorder (MDD)

Melancholic Profile

- Early morning awakening (terminal), shortened REM latency (<60 mins), increased REM density.

Atypical Profile

- Hypersomnia.

Treatment

- SSRI/SNRI + CBT. Avoid activating agents (fluoxetine) for onset issues.

Bipolar Disorder (Mania/Hypomania)

Signature Profile

- **Markedly decreased need for sleep** (feels rested after 2-3 hours). This is fundamentally different from insomnia (unable to sleep despite need).

Risk

- **Sleep deprivation** directly **triggers**/escalates **manic switch.**

Clinical Pearl

- Target sleep architecture aggressively in bipolar maintenance.

Specialized Psychiatric Presentations

PTSD & Trauma

Features: Hyperarousal and Nightmare Disorder.

Mechanisms: Dysregulated REM.

Nuance: Sleep restriction in CBT-I may initially worsen nightmares.

Med: Prazosin (alpha-1 blocker).

Anxiety Disorders

Features: Generalized/Panic. Features 'performance anxiety' about sleep.

Intervention: CBT-I cognitive restructuring is primary.

Dementia / Alzheimer's

Features: 'Sundowning' reflects circadian SCN decay.

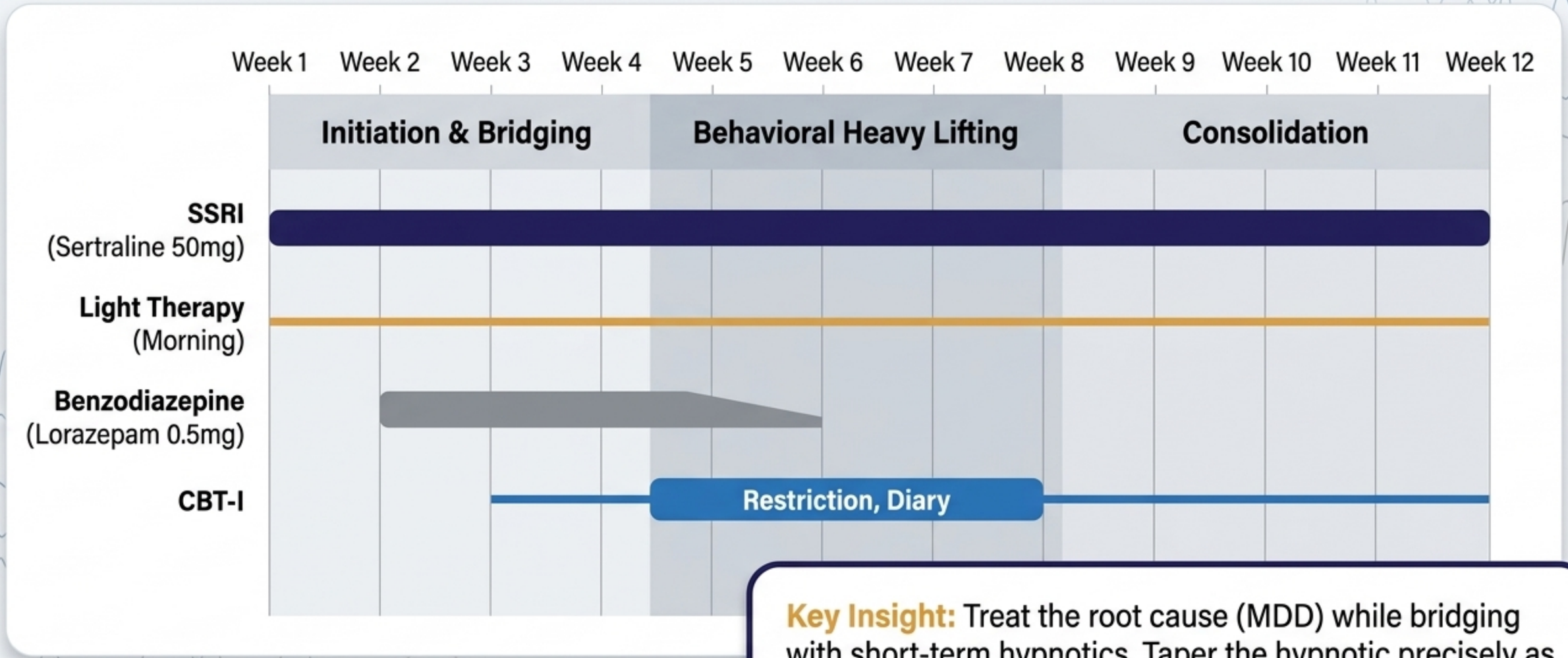
Intervention: Morning bright light, structured daytime activity. Avoid anticholinergics.

Paradoxical Insomnia

Features: Subjective severe complaint mismatched with normal objective PSG.

Intervention: Reassurance, cognitive work. Avoid over-medication.

Clinical Gantt Chart: Integrated Therapy Timeline



Key Insight: Treat the root cause (MDD) while bridging with short-term hypnotics. Taper the hypnotic precisely as CBT-I sleep restriction consolidates natural architecture.

Clinical Rules of Engagement

1. **Phenotype Dictates Approach:** **Onset, maintenance, and terminal insomnia** are **biologically distinct.** Do not treat them uniformly.

2. **CBT-I is the Gold Standard:** It provides **superior long-term remission** compared to pharmacology. **Refer early**.

3. **Medicate with an Exit Strategy:** **Limit** GABAergic agents to acute bridging (<4 weeks). **Prefer DORAs** or **MT agonists** for maintenance. **Taper** sl avoid rebound.

4. **Screen Before Sedating:** **Never initiate hypnotics** without **calculating a STOP-BANG score to rule out OSA**.

5. **Treat the Comorbidity, Not Just the Symptom:** In mood and anxiety disorders, **optimizing the psychiatric baseline** is the **most effective sleep intervention**.