THE COGNITIVE BEHAVIORAL TX
OF INSOMNIA

4 CASE EXAMPLES
ASSESSMENT ALGORITHM: IS CBT-1 INDICATED?

30/30 DIMS
Does the PT take ≥ 30 min to fall asleep?
Is the PT awake for ≥ 30 min during the night

DAYTIME COMPLAINT?

NO

YES

PHASE
The 30/30 DIMS problems exist with
Ad libitum sleep schedule

NO

YES

CBT-1 NOT INDICATED
Determine nature of sleep complaint
Fatigue? Non-restorative Sleep? EDS?
Educate Patient and/or Roter

CBT-1 NOT INDICATED
Assess for Circadian Rhythm Disturbances

UND-X - or - UNTX ILLNESS
Does the patient have an undiagnosed (UNDX),
untreated (UNTX) medical and/or psychiatric
illness

NO

YES

INSTABLE ILLNESS
Does the patient have an unstable or unresolved
medical and/or psychiatric
illness

NO

YES

STABLE ILLNESS
Does the patient have a stable
medical and/or psychiatric
illness

NO

YES

EVIDENCE OF MALADAPTIVE BEHAVIORS
Does the patient have an SE% < 90%

NO

YES

CBT IS INDICATED

ASSESS
Is it possible the insomnia will resolve with the acute
illness?

NO

YES

CBT-1 NOT INDICATED
Re-assess at a later time

ASSESS
Does the illness prevent
the patient from engaging
in SRT or STC?

NO

YES

CBT-1 NOT INDICATED
Re-assess at a later time

ASSESS
Will SRT or STC
Aggravate the "co-morbid"
illness?

NO

YES

CBT-1 NOT INDICATED
Educate the patient
CASE 1

Case courtesy of S.J.C. RN, CNS
Seoul Korea

Tx was conducted by staff or trainees at this locale.
INITIAL PRESENTATION

• **68 year old Female**
  – Married/ lives with her husband
  – Three daughters are all married

• Onset of insomnia: 6 yrs ago

• 2yrs ago: Dx & Tx GERD → somewhat improved

• **Increased fluid intake during night time (3-5cups/night)**
  – She thought it helpful for GERD
  → Nocturnal frequency

• TTB = Variable from 10-11pm
• TOB = 6am
• SL = 43 minutes
• WASO = 55 minutes
• TST = 6.27 (~6 hrs. 15 min)
• TIB = ~8.0 hours
• SE = 78%
MEDICATION & TX STATUS

• **Medications for Insomnia**
  – alprazolam 0.25mg 1~1.5T hrs
  – triazolam 1T hrs
  frequency: 1/week

• **Medication for GERD**
  – PPI (rabeprazole 10mg qd)

• **Medication for menopause**
  – Intermittent hormonal replacement IV form
TREATMENT

• **1st session**
  – Introduction of CBT-I
  – Hx, sleep pattern

• **2nd session**
  – Education about sleep/wake regulation
  – Behavioral/Relaxation Tx

• **3rd session**
  – Cognitive Tx
  – Medication tapering

• **4th session**
  – Review progress & wrap up
## PRE-POST COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>Pre-Tx</th>
<th>Post-CBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL</td>
<td>43.8 min</td>
<td>5.4 min</td>
</tr>
<tr>
<td>TST</td>
<td>6.27 hours</td>
<td>6.82 hours</td>
</tr>
<tr>
<td>WASO</td>
<td>55.8 min</td>
<td>42.6 min</td>
</tr>
<tr>
<td>NWAK</td>
<td>2.36 numbers</td>
<td>2.43</td>
</tr>
<tr>
<td>SE</td>
<td>78.8 %</td>
<td>89.5 %</td>
</tr>
</tbody>
</table>

- At 4\textsuperscript{th} session of CBT-I, she discontinued triazolam.
- 3 months after CBT-I, she could also discontinued alprazolam.
- SRT IS NOT INCLUDED ? (JUST STC)
- 4 VS. 8 SESSIONS OF TREATMENT
PTTB

Since TST was 375 min. (~ 6 hrs & 15 min) and time out of bed needed to be 6am, then what should The PTTB be?
CASE 2

Case Courtesy of MCZ, PhD
Tel Aviv, Israel

Tx was conducted by staff or trainees at this locale.
INITIAL PRESENTATION

• Demographics:
  – Age: 42
  – Sex: Female
  – Marital Status: Married (15 years)
  – Children: 3 (ages 5, 10, 13)
  – Employed full-time/avid karate athlete

• Onset of Insomnia:
  – 2 years ago, thyroid cancer (in remission)
  – Exacerbation 2.5 months ago, work-related stress

• TTB = 12pm
• TOB = 730am
• SL = 60 minutes
• WASO = 32 minutes
• TST = 6.0
• SE = 60%
MEDICATION & TREATMENT STATUS

- Stilnox (Zolpidem; 5mg), 2-3x/week
- Eltroxine (thyroid replacement)
- Wyethia (homeopathic remedy, ADHD)
- Carcinosin (homeopathic remedy, Cancer)
TREATMENT ??

- Assessment and baseline (1-2 weeks)
- Explanation of Spielman & Stimulus Control Concepts
- Initiation of SRT (by average TIB) and STC
- Titration
- Titration & Cognitive Therapy (decatastrophization)
- Titration (Sessions 6 & 7)
- Relapse Prevention

BEST GUESS WAS D/C SLEEP MEDICATION AND RESTRICT SLEEP PERIOD BY 1 HOUR
SLEEP ONSET LATENCY

MINUTES

WEEK

1  2  3  4  5

60  36.4  15.3  53.6  17.9
WAKE AFTER SLEEP ONSET

Week  Minutes
1  32
2  24
3  6
4  9
5  0
SLEEP EFFICIENCY

PERCENT

WEEK

1 2 3 4 5
DAYTIME SLEEPINESS (SCALE 1-10)

Week 1: High 7.6
Week 2: Low 4.1
Week 3: Low 3.3
Week 4: High 4.7
Week 5: Low 2.6
## PRE-POST COMPARISON

<table>
<thead>
<tr>
<th>Pre-Treatment</th>
<th>Post-Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL 60.0 min</td>
<td>SOL 17.9 min</td>
</tr>
<tr>
<td>WASO 32 min</td>
<td>WASO 0 min</td>
</tr>
<tr>
<td>TST 6.0 hrs</td>
<td>TST 6.4 hrs</td>
</tr>
<tr>
<td>SE 80%</td>
<td>SE 93%</td>
</tr>
<tr>
<td>EDS 7.6</td>
<td>EDS 2.6</td>
</tr>
<tr>
<td>Week</td>
<td>Minutes</td>
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<tr>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>1</td>
<td>358</td>
</tr>
<tr>
<td>2</td>
<td>319</td>
</tr>
<tr>
<td>3</td>
<td>356</td>
</tr>
<tr>
<td>4</td>
<td>344</td>
</tr>
<tr>
<td>5</td>
<td>385</td>
</tr>
</tbody>
</table>
PTTB

Since TST was 360 min. (6 hrs) and time out of bed needed to be 730am, then what should The PTTB be?
CASE 3

Case Courtesy of SD PhD
UCSD

Tx was conducted by staff or trainees at this locale.
INITIAL PRESENTATION

- 35 year old Hispanic male Navy veteran
- Married with a 6 year old son
- Difficulty initiating and maintaining sleep
- Onset: after doing shift work exacerbated from back injuries
- Med Dx: Degenerative arthritis of the spine, back injuries treated with surgery (spinal fusion)
- Meds: Pregabalin, Tramadol, Fluoxetine, Prilosec, and Zolpidem

- TTB = ~11pm
- TOB = ~6am
- SL = 41 minutes
- WASO = 57 minutes
- TST = 319 (5.31 hrs)
- SE = 76%
• **Precipitating factors**
  – Shift work in the Navy
  – Pain (back injury and subsequent surgeries)
  – Living with 5 pet cats who are active at night

• **Perpetuating factors**
  – Attempting to sleep before sufficiently tired
  – Other healthcare providers advised patient to “try harder” to fall asleep if unable at night
  – Attempted naps

• **Evidence of conditioned hyperarousal**
  – Reports of feeling “very tired” while watching TV in his living room at night, followed by immediate alertness/feeling awake when patient lies down in bed
TREATMENT

• Individual Therapy
  Therapist 3rd Year Grad Student

• Assessment and baseline (1-2 weeks)

• Explanation of Spielman & Stimulus Control Concepts
  Initiation of SRT (by average TST) and STC (initiate when aware of being awake or annoyed [not by time elapsed])

• Titration (15 min based on 80/85/90 rules) & Sleep Hygiene Review

• Cat Noise a focus

• D/C Zolpidem during Tx
PTTB

TST was 319 min. (call it 315 min) and time out of bed needed to be 6am, then what was the PTTB?
SLEEP LATENCY

REVERSAL OF GAINS WITH D/C ZOLPIDEM NO TAPER

* Patient did not bring a sleep diary to session 3
WASO

* Patient did not bring a sleep diary to session 3
TST

* Patient did not bring a sleep diary to session 3
* Patient did not bring a sleep diary to session 3
### PRE-POST COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>Pre-Tx</th>
<th>Post-Tx</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL</td>
<td>41 Min</td>
<td>3 Min</td>
</tr>
<tr>
<td>NOA</td>
<td>2.2</td>
<td>0.6</td>
</tr>
<tr>
<td>WASO</td>
<td>57 Min</td>
<td>4 Min</td>
</tr>
<tr>
<td>TST</td>
<td>319 Min</td>
<td>292 Min</td>
</tr>
<tr>
<td>SE</td>
<td>63%</td>
<td>98%</td>
</tr>
<tr>
<td>ISI</td>
<td>27</td>
<td>21</td>
</tr>
<tr>
<td>PSQI</td>
<td>19</td>
<td>11</td>
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</tbody>
</table>

**REALLY NEEDED THE ESS !**
CASE 4

Case Courtesy of
SH PhD D-ABSM
Montefiore Hospital
New York, New York

Tx was conducted by staff or trainees at this locale.
INITIAL PRESENTATION

- Female - 82 years Old
- Widowed
- 5th Grade Education
- Non-English Speaker
- Med Dx: Arthritis, Hypothyroidism, Hypertension, moderate OSA (compliant with CPAP).
- Meds: Synthroid, Amlodipine, and Lisinopril
- Assessment showed mild depression (BDI=14)

Case was conducted using a phone interpreter
Patient very lonely, spent most of day and evening in bed watching TV

- TTB = 8pm
- TOB = 8am
- SL = 240 minutes
- WASO = 60 minutes
- TST = 390 (6.5 hrs)
- SE = 54%
PTTB

Since TST was 390 min. (6.5 hrs.) and time out of bed needed to be 8am, what should have the PTTB been?
TREATMENT PLAN

• Two week prospective assessment

• SRT + SCT (Titration rule 80% / 85%)

• Patient resistant to Phase Delay of TTB switched to Sleep Compression (delay over 2 weeks [not sure how this was done])

• Made a plan for Time Awake (photo albums and scrap book)
SLEEP ONSET LATENCY

MINUTES

WEEK

1 2 3 4 5 6 7 8 9

240 90 60 10 10 10 10 10 10

30 60 90 120 150 180 210 240 270 300
NUMBER OF AWAKENINGS

WEEK

NUMBER

1 2 1 1 1 1 1 1 1
0
1
2
3
4
5
6
7
8
9
WAKE AFTER SLEEP ONSET

![Bar chart showing wake times after sleep onset over weeks.](chart.png)
TIME IN BED VS. TOTAL SLEEP TIME

WEEK

MINUTES

1 2 3 4 5 6 7 8 9

200 300 400 500 600 700 800

390 400 415 430 445 460 480

480 480 450 465 480 480 480

720
SLEEP EFFICIENCY

<table>
<thead>
<tr>
<th>WEEK</th>
<th>%</th>
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<tbody>
<tr>
<td>1</td>
<td>54</td>
</tr>
<tr>
<td>2</td>
<td>62</td>
</tr>
<tr>
<td>3</td>
<td>81</td>
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<td>4</td>
<td>95</td>
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<td>5</td>
<td>95</td>
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<tr>
<td>6</td>
<td>96</td>
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<tr>
<td>7</td>
<td>96</td>
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<tr>
<td>8</td>
<td>96</td>
</tr>
<tr>
<td>9</td>
<td>96</td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>Post-Treatment</td>
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<tr>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>SOL 240 min</td>
<td>SOL 10 min</td>
</tr>
<tr>
<td>WASO 60 min</td>
<td>WASO 10 min</td>
</tr>
<tr>
<td>TST 6.5 hrs</td>
<td>TST 7.6 hrs</td>
</tr>
<tr>
<td>SE 58%</td>
<td>SE 96%</td>
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<tr>
<td>EDS ?</td>
<td>EDS ?</td>
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SO ?

WHO’S AWESOME?

CBT-I IS AWESOME !!
BREAK
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