

# CHRONIC PAIN AND INSOMNIA

**Insomnia** is “difficult sleeping” and can include trouble falling asleep, intermittent awakening, restlessness, non-refreshing sleep, and early morning awakening. Insomnia can occur for many different reasons. Chronic pain is a major factor that contributes to insomnia. Consider the following:

- The National Sleep Foundation reports that approximately 15% of all people have sleep problems and 66% of chronic pain sufferers experience sleep problems.
- Pain causes insomnia – alpha rhythms (usually generated when we are awake) disrupt sleep. Micro-arousals (episodes of partial awakening) occur and increase likelihood of disrupted sleep patterns.
- Insomnia can increase pain, creating a vicious cycle.
- Insomnia and chronic pain can contribute to depression which can further complicate pain.
- Pain medication may contribute to sleep issues and increase vivid dreaming.
- Nerve entrapment can occur, resulting in the body becoming numb from the slightest pressure (fibromyalgia).

## Getting to sleep

- Sleep hygiene is very important. Experts recommend using the bedroom for sleep and intimacy only and having a wind-down routine one hour before bed.
- Try meditation or breathing exercises.
- Read affirmations.
- Listen to a soothing tape.
- Limit nicotine, caffeine, and alcohol, since it disturbs sleep.
- TV and computers are stimulants – turn them off a few hours (or at least an hour) before bedtime.
- Almonds (unsalted), turkey, warm milk, and nutmeg can help you sleep – if you need a snack before bedtime, choose from this list.

The National Sleep Foundation maintains that eight to nine hours of sleep for adults is optimal and that sufficient sleep benefits alertness, memory and problem solving, and overall health, as well as reducing the risk of accidents.

## References/Bibliography

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## STAGES OF SLEEP

The stages below outline a normal sleep cycle. Sleep is an essential topic to talk about with chronic pain clients because many are not getting the sleep they need in order to heal. Chronic pain sufferers do not go through the normal stages of sleep. Research shows that the lack of restorative sleep can result in aching muscles, exhaustion, and the inability to tolerate pain, due to low levels of the neurotransmitters serotonin and dopamine. Excessive amounts of alpha activity (normal waking EEG rhythm of the brain) occur during sleep for a person in pain. This makes the person appear as if he is awake and asleep at the same time. The deepest stages of sleep (stages 3 and 4 of non-REM sleep, also called delta sleep) which are essential to healing are disrupted. Hormones are affected by these sleep changes. Somatostatin C is a hormone that regenerates muscles and repairs tissues from normal wear and tear – the production of this hormone only happens during sleep. When Somatostatin C is not produced during sleep, the repairs are not made, and this results in even more pain. Review this material with your client and develop a sleep action plan that includes having her talking to her doctor.

### Stage 1

- ◆ Right before falling asleep, drift in and out of sleep.
- ◆ Hypnagogic – drowsy, thoughts incoherent, eye and muscle movements slow down.
- ◆ Twitches, body jerks, muscles contract – hypnic myoclonia.
- ◆ More suggestible (good time to work on affirmations).
- ◆ Feel like floating/falling.
- ◆ Lasts around 5–10 minutes.

### Stage 2

- ◆ Light sleep, the heart rate and brain waves slow down, eye movement stops, and body temperature decreases.
- ◆ Sleep spindles, which are rapid waves, occur.
- ◆ Muscle activity slows down and person loses consciousness.

### Stage 3

- ◆ Delta deep sleep (stages 3 and 4).
- ◆ It is very difficult to wake someone during stages 3 and 4. When awakened, one does not adjust immediately, often feels groggy or disoriented for several minutes.
- ◆ There is no eye movement or muscle activity.
- ◆ Some children and adults experience bedwetting, night terrors, or sleepwalking/talking during stages 3 and 4.

## Stage 4

- ◆ Delta sleep—more intense than during stage 3.

## Stages 1 through 4—Non-Rapid Eye Movement (NREM) Sleep

- ◆ Lasts from 90 to 120 minutes—each stage lasts anywhere from 5 to 15 minutes.
- ◆ After stage 4, stages 2 and 3 repeat in reverse before REM sleep is attained.

## Stage 5—Rapid Eye Movement (REM) Sleep

- ◆ Usually REM sleep occurs 90 minutes after sleep onset.
- ◆ Loss of muscle tone, body doesn't move, limb muscles become temporarily paralyzed.
- ◆ Twitches.
- ◆ Breathing becomes more rapid, irregular, and shallow; eyes jerk rapidly in various directions.
- ◆ Heart rate increases, blood pressure rises.
- ◆ Dream during this stage.

**A normal sleep cycle has this pattern: waking, stages 1, 2, 3, 4, 3, 2, 5 (REM).**

In order to be rested during the day, the average person goes through four or five complete cycles per night.

## References/Bibliography

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