

Sick and Tired: A Conversation about Stress and Fatigue



2020
Sept. 21st-25th

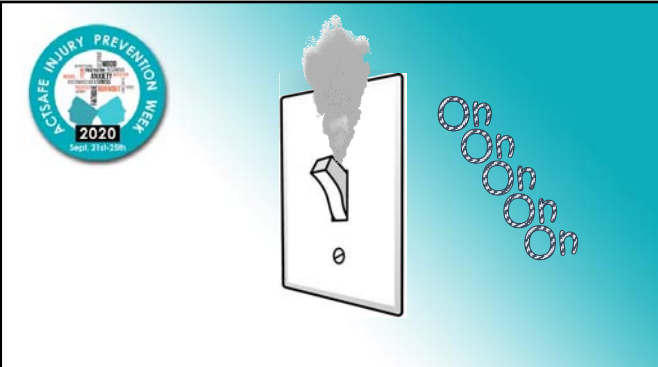
Sick and Tired
A Conversation about Stress and Fatigue

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2020
Sept. 21st-25th

STRESSED OUT



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Sources of Stress within the Industry

- Entertainment Industry Workers
 - High work demands and long hours
 - High work expectations
 - Uncertainty about future work, finances
 - Erratic work hours
 - Balancing family and relationships
 - Self employed entrepreneurs
 - 10X more likely to have anxiety
 - 5X more likely to be depressed



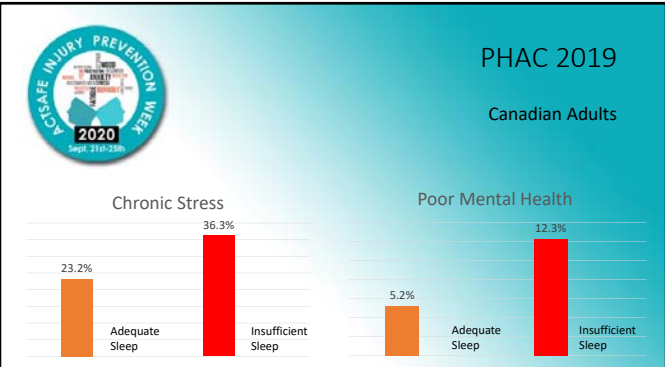
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10th in US, 9th in Canada
4th among 35-54
2nd among 10-34

Arts, Entertainment, Recreation – 3rd highest suicide rate

Males 3X more likely (consistent since 1950)

Suicidal Thoughts



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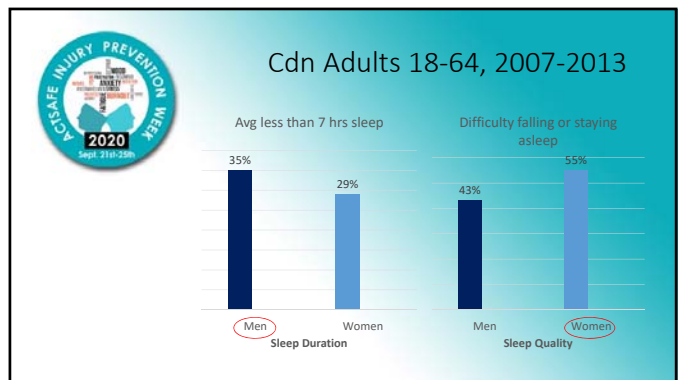
PHAC 2019
Canadian Adults

Category	Adequate	Insufficient
Chronic Stress	23.2%	36.3%
Poor Mental Health	5.2%	12.3%

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Are you getting enough?



Erratic Sleep

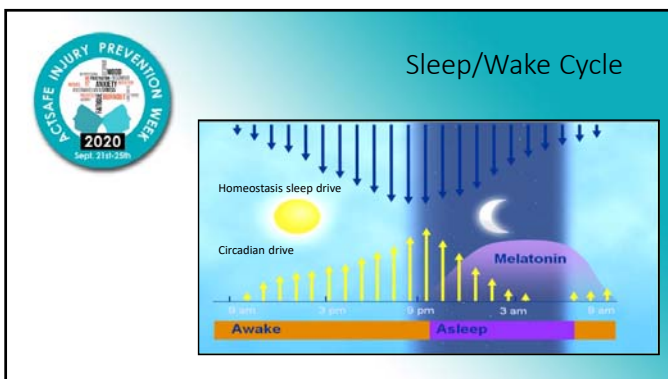
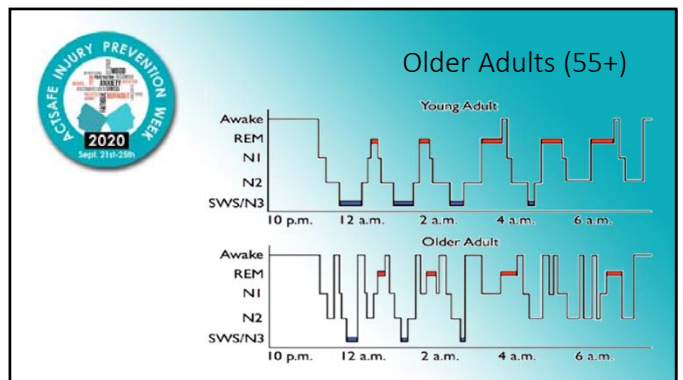
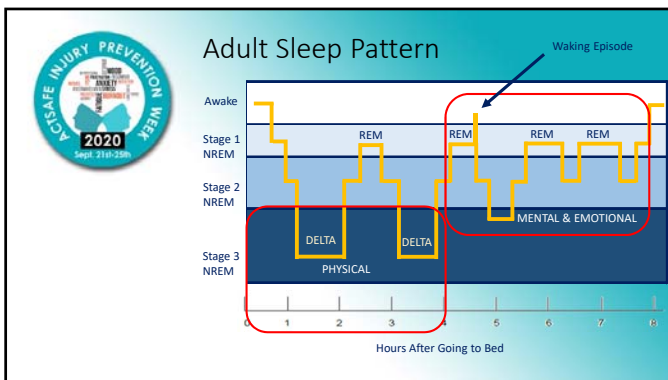
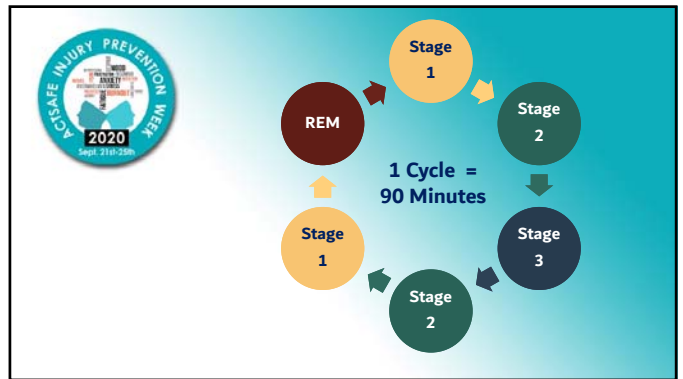
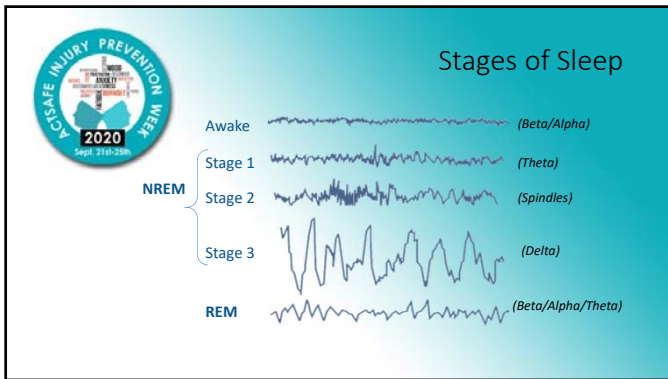
Causes 97% of rhythmic genes to go out of sync (circadian rhythm disruption); linked to

- mental illnesses such as schizophrenia, bipolar disorder and depression **Schuch JB, e. (2020)**
- neurological conditions like Alzheimer's, vascular dementia, **Shi L, e. (2018)**
- multiple sclerosis; **Hedström AK, e. (2015)**

Doesn't my body know better?

- NO! You cannot train yourself to need less sleep
- Accelerates aging of every cell at DNA level
- 13% higher mortality rate for 6 hr vs 7 hr sleepers
- Uncontrolled microsleeps occur after one day with less than 4 hours of sleep or subsequent days of less than 6 hours

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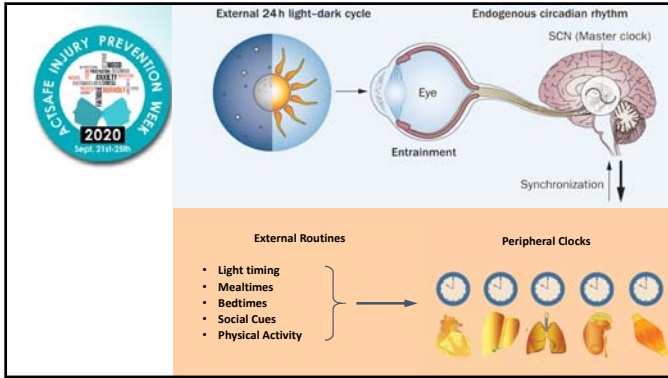


Circadian Factors

Two functions

- Vision, projecting images to the brain (rods and cones)
- Circadian and physiological (photoreceptor melanopsin)

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Light and Melatonin

- Natural sleep hormone synthesized and secreted at night
- Powerful anti-oxidant
- Age reduces production
- Light at inappropriate times can depress production

Serotonin

- Melatonin synthesized from Serotonin
- Known as the “happiness” hormone
- Significantly reduced levels when working with erratic or shifting schedules

Food to Mood to Sleep

Sunlight promotes synthesis of serotonin from tryptophan

Meat, dairy, fish, nuts, whole grains, quinoa

L-Tryptophan

Serotonin

Melatonin

Melatonin synthesized from serotonin

Emotional Consequences

- Aggressive and intolerant
- Impulsive; addictive behaviours
- Mood swings
- Irrational
- Decreased motivation
- Diminished emotive expressions
- Decreased facial expression recognition
- Depression
- PTSD

Sleep, Light and Depression

- Study of 900 elderly Japanese
- 5 lux of light at night
 - went to bed earlier, woke up later, stayed in bed longer
 - 65% increase in depression after 2 years

10K – 100K lux

1 lux = light from a candle 10M (30') away

American Journal of Epidemiology, 2018

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Sept. 21st-25th

Sleep Loss & Emotional Memory

Stimulus Type	Sleep Control	Sleep Deprivation	Significance
POSITIVE	~2.3	~1.5	59% (**)
NEGATIVE	~2.1	~1.9	19% (n.s.)
NEUTRAL	~1.7	~1.2	43% (**)

Sleep Med Clin. 2011 Mar

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Technology's Role

- Social tool, hard to ignore, activating brain's reward system
- Switch-cost is high!
- 2014 Study: juggling digital stimuli bombards prefrontal cortex; less grey matter to control thoughts and emotions
- So what's the antidote?
 - Step outside away from devices
 - Silence notifications or put them on a time
 - Meditation

J PLOS One, 2014

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REM & PTSD

2020
Sept. 21st-25th

Sleep Disorders

Types	Causes
Lack of Sleep (insomnia)	Lifestyle (shift work, stress, etc.)
Disrupted/Fragmented Sleep	Drugs and Alcohol
Excessive Sleep (hypersomnia, narcolepsy)	Medical Conditions

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Obstructive Sleep Apnea (OSA)

- Repeatedly stop breathing for 10+ secs at a time
- Starving heart of O₂
- 3 out of 4 with OSA have NOT been diagnosed
- Linked to other chronic conditions
 - 2.5 X more likely to have diabetes
 - 2.2 X to suffer from mood disorders

2009 Canadian Community Health Survey


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OSA and COVID

- 29% of patients hospitalized for COVID were suffering from non-severe OSA
 - Vs typical OSA hospitalization of 3.1%
 - Of those 29%, one quarter ended up in ICU
- Suggests that non-severe OSA is an important risk factor for severe COVID-19 cases

Feuth T, Saaresranta T, Karlsson A, et al. 2020

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Obstructive Sleep Apnea Quiz

Step 1 ✓

Do you snore loudly (louder than talking or loud enough to be heard through closed doors)?

Do you often feel tired, fatigued, or sleepy during daytime?

Has anyone observed you stop breathing during your sleep?


Do you have or are you being treated for high blood pressure?

Gender: Male?

Age over 50 years old?


Neck circumference > 17" (Male) or >16" (Female)?

Total ✓



Step 2: If BMI is more than 30, add 1 point (refer to chart)

Height	Weight	Weight in Pounds (without clothes)																		
4'11"	94<	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188
5"	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	180	186	192	198
5'1"	100	106	111	116	122	127	132	137	143	148	153	158	164	169	175	181	187	193	199	204
5'2"	104	109	115	120	126	131	136	142	147	153	158	164	170	176	182	188	194	200	206	211
5'3"	107	113	118	124	130	135	141	146	152	158	163	169	175	181	187	193	199	205	211	217
5'4"	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	198	204	210	216	222
5'5"	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228
5'6"	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	222	228	234
5'7"	121	127	134	140	146	153	159	166	172	178	185	191	197	203	209	215	221	227	233	239
5'8"	125	131	138	144	151	158	164	171	177	184	190	197	203	209	215	221	227	233	239	245
5'9"	128	135	142	149	155	162	169	176	182	189	196	203	209	215	221	227	233	239	245	251
5'10"	132	139	146	153	160	167	174	181	188	195	202	207	213	219	225	231	237	243	249	255
5'11"	136	143	150	157	165	172	179	186	193	200	208	215	221	228	234	241	247	254	260	266
6"	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	249	256	263	270	276
6'1"	144	151	159	166	174	182	189	197	204	212	219	227	234	241	248	255	262	269	276	283
6'2"	148	155	163	171	179	186	194	202	210	218	225	233	241	248	255	262	269	276	283	290
BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38



Interpreting Your Score

Risk for Obstructive Sleep Apnea	Score
Low risk of OSA	0-2
Moderate risk of OSA	3-4
High risk of OSA	5-8




How are we coping?

50% of Americans using a mix of two or more sleep aids per night




ResMed Tech, Consumer Sleep Study, CES 2017




Substance Use Leaders

2008-2012	ARTS, ENTERTAINMENT & RECREATION	FOOD & ACCOMMODATIONS
Past-month heavy alcohol use	11.5% (4 th)	11.8% (3 rd)
Past-month illicit drug use	13.7% (2 nd)	19.1% (1 st)
Past-year substance use disorder	12.9% (3 rd)	16.9% (1 st)



Sleep Aids?

- Cannabidiol – anti-inflammatory, not a sleep aid
- THC – higher rates of chronic insomnia for daily users




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Sleep Medications

- 20 million sleep aids prescribed in 2015 (Canada)
- Growing 2-3X faster than any other class of drug
 - Some help you fall asleep, stay asleep, or both
 - Most are addictive or create tolerance
- Sleep meds treat the *symptoms*, not the problem



Prescription Sleep Medications

Most commonly issued in Canada

Drug Class	Generic Name	Trade Name
Benzodiazepenes	Alprazolam	Xanax®
	Clonazepam	Rivotril®
	Diazepam	Valium®
	Flurazepam	Dalmane®
	Lorazepam	Ativan®
	Temazepam	Restoril®
Non-Benzodiazepenes	Zopiclone	Imovane®



OTC Sleep Meds (non-narcotic)


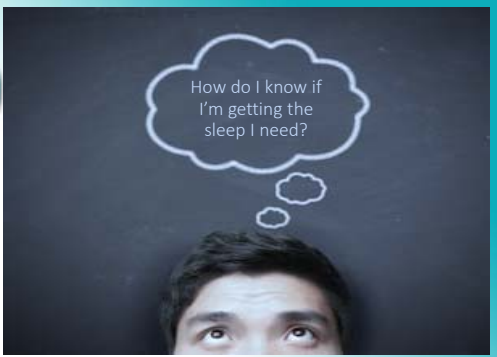

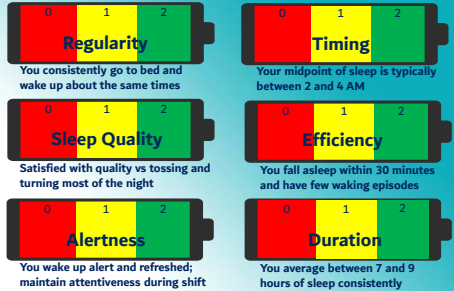



Synthetic Melatonin

- Many side effects
- May worsen depression symptoms
- Try Melatonin-rich foods or L-Tryptophan (5-HTP)



Food	Melatonin (ng/100g)
Sour cherries	40
Walnuts	770
Corn	188
Rice	150
Ginger root	149
Peanuts	117
Barley	87
Asparagus	77
Tamarind	54
Black Tea	41
Wassail	27
Prune/plum	21
Black olives	9
Green tea	9
Cucumber	6

↓ Health ← 0 - Poor Sleep 6 Good Sleep - 12 → ↑ Health

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