

CIRCADIAN RHYTHMS & WORK SCHEDULES

1. 24/7 Work Schedules

work world is now 24 hrs. long
conflict with our diurnal activity pattern

contributing factors:

“industrial/technology/information” age jobs that never stop
global economy
machines that never stop
artificial light (freed from the sun’s cycle)

shiftworkers (1986 data)

22% of population doing shiftwork (1 in 5+)

16% full-time, 47% part-time

these #s have increased over the last 15+ years

2. Information of Shiftworkers

these workers frequently report being unhappy with their work schedules

report significant sleep disruption

report significant sleepiness during work hours

e.g. survey of 1000 train drivers

3. History of Start of Shiftwork Schedules

prior to 1883 most work confined to daylight hours

winter – worked 8 to 10 hours/24 (e.g. 9am to 5pm)

summer – worked 12 to 14 hours/24 (e.g. 7am to 7pm)

adjusted work hours to the sun’s cycle, with seasonal changes

1883, Edison invented the electric lightbulb

by early 1900’s, industrial America had begun to consider working at night...because it could

more work --- more product--- more sales --- more profit...

But at what cost? And at whose cost?

1910 American steel mills

worked round-the-clock schedules

rotated day vs. night shifts every two weeks

12/7 schedules, 1 day off/4 weeks

3. **History of Shiftwork** (cont.)

1914, Henry Ford

1920, Interchurch World Movement report

1923, steelworkers strike, major union victory

1932, Walsh-Healey Act

1938, Fair Labor Standards Act

1940's, World War II

by 1982 in USA, 26% of adult males + 16% of adult females did full-time shiftwork on “graveyard”, reversed days and nights

4. **Recommendations for Surviving Shiftwork**

1969, Stanford University Sleep Clinic

recommendations based on contemporary sleep research:

Do not do shiftwork!

But, if you must...

- a. stay on a consistent S/W schedule 24/7
- b. if you must change schedules, do so slowly/infrequently
- c. if you must change schedules, do so in the delayed direction
- d. modify the bedroom environment (esp. light & sound)
- e. exercise after the last sleep period (“morning”)
- f. eat major meal(s) after last sleep period and/or in middle of “day”; not just before sleep onset
- g. workplace must be brightly lit (intensity of sunlight)
- h. worker must avoid bright light when workshift ends

5. Why are Shiftwork **Recommendations Difficult to Follow**?

Why isn't this as simple as it looks?

6. What's Happening **Outside the USA**?

7. **Future Predictions**