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
artifical 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”;
   g. not just before sleep onset
4. **Recommendations for Surviving Shiftwork** (cont.)
   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 a simple as it looks?

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

7. **Future Predictions**