SLEEPLESS

GENE REGULATION

To maintain our daily body cycles, every cell in the body needs to do specific jobs at the right time of day. Cells contain proteins that can switch on and off the genetic instructions, or genes, to make sure this timing is correct. Researchers can monitor the levels of these genes over 24 hours to help discover why sleep is so important to your health. Examples of these data can be seen in the film in graphs like this.
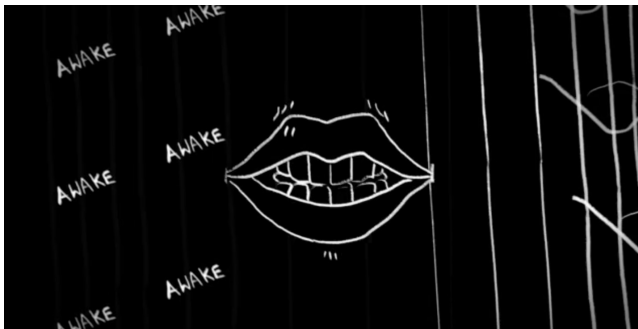
ACTIGRAPHS

Other data in the film include actigraphs which show activity over time. Humans wear wristbands to record daily movement, but for behavioural studies using mice, researchers record how much they exercise on a running -wheel. Typically these graphs show blocks of activity (white) followed by blocks of rest (dark). When a daily activity rhythm is disturbed this pattern is more erratic and can show that something is wrong.

VOICES

Mental Health service users (MHSU) discuss their individual and personal experience with sleep and how it affects their lives. Researchers collect data from lots of individuals like these four, and then look for similarities and patterns that can help them to identify links between health and sleep in the wider population.

STAYING AWAKE

Although we spend one third of our lives asleep on average, why we sleep is still not completely understood. Research has shown sleep is important for making new connections in the brain. Without sleep it is thought some of these connections may be changed, perhaps influencing conditions such as depression and schizophrenia.

THE SLEEPING BODY

Sleep is not just important for the brain - it affects the whole body. For example, the body's defence and repair mechanisms, such as the immune system, are very active during sleep. Insufficient sleep has also been linked to many health conditions like obesity and heart disease. Therefore getting a good night's sleep is important for everyone.