

Video 1: Mature flies sleep in the vicinity of the food source. Video recording of day 7 *Iso31* flies ~ ZT5. 20 seconds of a sleep bout are shown. Flies in tubes 1-3 (from left to right) are located in the half of the tube closer to the food, and the fly in tube 4 is located within 1 body length of the food.

Video 2: Young flies sleep with less preference for location. Video recording of day 1 *Iso31* flies ~ZT3 showing the full MB DAM tube. 20 seconds of sleep are shown.

Video 3: Mature flies eat in more prolonged bouts. Video recording of day 7 *Iso31* fly eating with visible proboscis extensions towards the food. Video is shown at 8x speed. 5 minutes of an 8-minute eating episode are shown.

Video 4: Young flies eat in shorter bouts. Video recording of day 1 *Iso31* flies eating in between walking back and forth across the tube. Video is shown at 8x speed.

Video 5: High resolution example 1 of leg twitch during sleep. Video recording of day 1 *Iso31* fly exhibiting motor twitches during a 34-minute sleep episode. Video is shown at 2x speed. Leg twitches are visible beginning at 00:03 in the video, indicated by the red arrow. The fly is immobile before and after the twitch episode.

Video 6: High resolution example 2 of leg twitch during sleep. Video recording of day 1 *Iso31* fly exhibiting motor twitches during a 20-minute sleep episode. Video is shown at 2x speed. Leg twitches are visible beginning at 00:04 in the video, indicated by the red arrow. The fly is immobile before and after the twitch episode.

Video 7: Example of proboscis extension and abdominal twitch during sleep. Video recording of day 1 *Iso31* fly exhibiting motor twitches during an 18-minute sleep episode. Video is shown at 2x speed. Proboscis extensions and abdominal twitches are visible beginning at 00:03 in the video, indicated by the red arrow. The fly is immobile before and after the twitch episode.

Video 8: Example of leg twitch during sleep. Video recording of day 1 *Iso31* fly exhibiting motor twitches during a 29-minute sleep episode. Video is shown at 2x speed. Leg twitches are visible beginning at 00:06 in the video, indicated by the red arrow. The fly is immobile before and after the twitch episode.