

# Circadian Rhythm Optimization Checklist

Sleep timing, meal timing, activity timing — align your family's biology with the sun

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Your child's body runs on a 24-hour clock that governs hormone release, digestion, immune function, memory consolidation, and tissue repair. When daily routines align with that clock, everything works better. When they don't — late meals, erratic bedtimes, bright screens at night — the system fights itself. This checklist covers the three pillars of circadian alignment: light, food, and activity.

## Morning Routine (The Circadian Anchor)

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- Wake at a consistent time (within 30 minutes, including weekends) — The single most important circadian anchor. Consistency beats duration.
- Get outdoor light within 30 minutes of waking — 10-20 minutes of outdoor light, even on cloudy days. Sunglasses off.
- Eat breakfast within 1 hour of waking — Food is a secondary circadian timer (peripheral clock). Include protein and fat.
- Include physical movement in the morning — Even 5-10 minutes of active play, stretching, or a walk. Movement signals 'daytime' to the body.
- Avoid screens for the first 30-60 minutes after waking — Let natural light and real-world input set the circadian tone before introducing artificial stimulation.

## Daytime Habits

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- Outdoor time totals 1-2 hours per day — Split across morning and afternoon is fine. This also protects against myopia.
- Meals happen at roughly the same times daily — Breakfast, lunch, and dinner within a 1-hour window day to day. Peripheral clocks in the gut sync to meal timing.
- Naps (if age-appropriate) end by 3:00 PM — Late naps push bedtime later and fragment nighttime sleep. Exception: infants under 6 months.
- Physical activity happens before 5:00 PM — Vigorous exercise close to bedtime raises core body temperature and delays sleep onset.

- Caffeine (for parents) stops by noon** – Caffeine has a half-life of 5–6 hours. A 2 PM coffee means half the caffeine is still active at 8 PM.

## Evening Wind-Down (The Critical 2 Hours)

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- Dinner finishes 2–3 hours before bedtime** – Eating close to sleep disrupts melatonin and growth hormone release. Light snack is OK if needed.
- Screens off 1.5–2 hours before bedtime** – This is non-negotiable for children. Blue light at close range suppresses melatonin for 60–90 minutes.
- Overhead lights off – switch to warm lamps** – After dinner, use 2700K or lower lighting. Salt lamps, candles, and amber bulbs are ideal.
- Bath or shower 60–90 minutes before bed** – Warm water raises skin temperature, then the cool-down afterward triggers drowsiness (thermoregulation effect).
- Consistent bedtime routine (15–30 minutes)** – Same order, same activities, same cues every night. The routine itself becomes a sleep signal.
- Bedroom is cool (65–68°F / 18–20°C), dark, and quiet** – Core body temperature needs to drop 1–2°F for sleep onset. Cool room facilitates this.
- No food or milk in bed (for children old enough)** – Eating in bed creates an association between bed and wakefulness, not sleep.

## Sleep Environment

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- Blackout curtains installed and sealed at edges** – Even small amounts of light (streetlights, early dawn) can suppress melatonin and cause early waking.
- No electronic devices in the bedroom** – No TV, no tablet, no phone charging on the nightstand. Blue LEDs on devices disrupt sleep.
- White noise or silence (consistent, not variable)** – White noise at 50–60 dB masks environmental sounds. Avoid music or audiobooks that engage attention.
- Mattress and bedding are clean and appropriate for temperature** – Breathable materials (cotton, linen). Avoid synthetic fleece that traps heat.
- If a nightlight is used, it's red or amber (not blue or white)** – Red/amber wavelengths don't suppress melatonin. Even dim white/blue light does.

## Weekend & Travel Consistency

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- Weekend wake time varies by no more than 30-60 minutes from weekdays – Sleeping in 2+ hours on weekends creates 'social jet lag' – the equivalent of flying across time zones.
- When traveling across time zones, adjust light exposure to new schedule – Get morning light at destination local time. Avoid bright light at the 'wrong' time.
- Maintain bedtime routine when away from home – Bring familiar items: white noise machine, blackout curtains (travel versions), same books or songs.
- After illness or disruption, re-anchor wake time first – Don't try to fix bedtime. Fix wake time and morning light. The rest follows within 2-3 days.

### THE BIG THREE

If you can only fix three things, fix these: (1) consistent wake time, (2) morning outdoor light, and (3) screens off 2 hours before bed. These three changes address roughly 80% of circadian disruption in children.