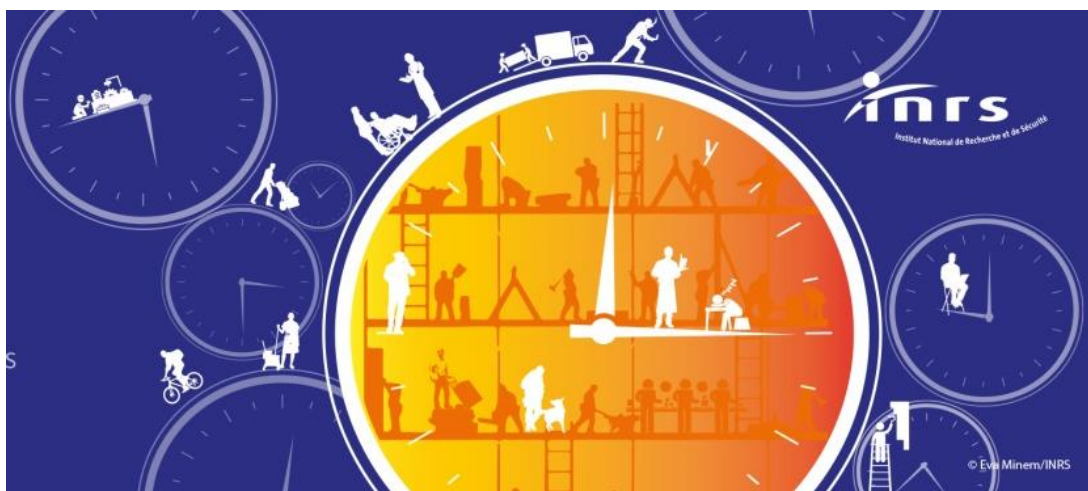


LES HORAIRES ATYPIQUES

Bulletin de veille scientifique : Juin 2026



Objectifs : réaliser une veille scientifique sur les horaires atypiques

La validation des informations fournies (exactitude, fiabilité, pertinence par rapport aux principes de prévention, etc.) est du ressort des auteurs des articles signalés dans la veille. Les informations ne sont pas le reflet de la position de l'INRS. Les éléments issus de cette veille sont fournis sans garantie d'exhaustivité. Les liens mentionnés dans le bulletin donnent accès aux documents sous réserve d'un abonnement à la ressource.

Les bulletins de veille sont disponibles sur le [portail documentaire de l'INRS](#). L'abonnement permet de recevoir une alerte mail lors de la publication d'un nouveau bulletin (bouton « M'abonner » disponible après connexion à son compte).

Horaires atypiques (HA)	3
Généralités et prévention	3
Activités physiques	3
Autres pathologies	3
Cancers	3
Risque routier, accidentologie	3
RPS et QVT	3
Santé psychique	3
Troubles cognitifs et de la vigilance	4
Travail posté et de nuit	6
Généralités et prévention	6
Activités physiques	6
Autres pathologies	6
Cancers	10
Risque routier, accidentologie	12
RPS et QVT	12
Santé psychique	16
Troubles cognitifs et de la vigilance	18
HA comme facteur de risque	24
Généralités et prévention	24
Activités physiques	24
Autres pathologies	25
Cancers	25
Risque routier, accidentologie	25
RPS et QVT	25
Santé psychique	25
Troubles cognitifs et de la vigilance	25
Travail posté et de nuit facteur de risque	26
Généralités et prévention	26
Activités physiques	26
Autres pathologies	26
Cancers	27
Risque routier, accidentologie	27
RPS et QVT	27
Santé psychique	33
Troubles cognitifs et de la vigilance	34
Chronobiologie	36
Animal	36
Homme	38
Conduites addictives	47
Reproduction	48
Polyexposition	48
Pathologies cardiovasculaires	52

Horaires atypiques (HA)

Généralités et prévention

Aucun article dans ce bulletin.

Activités physiques

Aucun article dans ce bulletin.

Autres pathologies

Aucun article dans ce bulletin.

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Aucun article dans ce bulletin.

RPS et QVT

Aucun article dans ce bulletin.

Santé psychique

Burnout and Cognitive Performance in the Emergency Department in Turkey: The Relationship with Resident Physicians' Work Schedules.

Akın Özdemir M, Şancı E, Özturan İ U, İnci Ö, Delice Y. *J Emerg Med.* 2026 Jun;85:131-8.

BACKGROUND: Shift durations and working schedules are associated with cognitive fatigue and increased risk of burnout, potentially compromising both physicians' well-being and patient safety. **OBJECTIVES:** This study aims to investigate the effects of different work schedules on cognitive performance and burnout levels among emergency medicine residents by psychological scales and objective cognitive testing. **METHODS:** A total of 110 residents were enrolled from 4 institutions implementing 2 distinct work schedules: 24-hour shift system and 8-hour day + 16-hour night shift model. Cognitive performance was assessed using the Stroop test at multiple time points, and Interference Index (IG) Scores were calculated to quantify the stroop effect. Burnout levels were evaluated with Maslach Burnout Inventory (MBI). **RESULTS:** Residents working 24-hour shifts showed significant time-dependent decline in Stroop test performance and IG scores ($p < 0.001$), indicating reduced cognitive function by the end of the shift. Conversely, residents in the 8-hour day shifts also showed cognitive decline ($p < 0.001$), while no significant changes were observed in the 16-hour night shift group. Burnout analysis revealed that emotional exhaustion scores were significantly higher in the 8/16-hour group compared to the 24-hour group ($p = 0.027$), while depersonalization and personal

accomplishment scores did not differ significantly between groups. **CONCLUSION:** Both long and fragmented shift models may impair cognitive performance among emergency medicine residents. Interestingly, the 8/16-hour system was associated with higher emotional exhaustion, despite its shorter duration. These findings underscore the importance of reevaluating shift structures to promote physician wellness and preserve clinical performance.

[Lien vers l'article](#)

Troubles cognitifs et de la vigilance

Effects of sleep deprivation on cognitive-motor functions and adaptive skill learning among medical residents across 26h night shifts.

Gottlieb A, Ben Yacov M, Heimler B, Hagur-Bahat Y, Wilf M, Plotnik M, et al. *Appl Ergon.* 2026 Jun 4;138:104824.

Sleep deprivation is a pervasive issue in medical training known to impair attention and specific motor abilities, yet its impact on integrated cognitive-motor performance and adaptive motor skill learning during real-world hospital shifts remains insufficiently understood. This study investigated potential declines in these domains across a 26-h night shift and following recovery sleep among medical residents utilizing a Virtual Reality version of the Color Trails Test. The protocol involved thirteen residents who underwent assessment two days prior to the shift, at four time points during the shift, and once more after at least 24 h of recovery sleep. By replicating the core cognitive demands of the classic test while incorporating three-dimensional manual movements, the assessment also included an adaptive module with intermittent left-right mirror reversal to evaluate learning under sleep loss conditions. Findings indicated that completion times improved across sessions, predominantly in mirror-reversal segments, whereas performance on regular segments stabilized following pre-shift practice. Conversely, interference cost increased towards the end of the shift and remained elevated post-shift, suggesting greater relative difficulty in the more demanding condition due to fatigue. Movement distance and speed followed the completion time pattern with progressive improvement. Ultimately, despite preserved motor learning, fatigue appeared to selectively impair higher-order cognitive control, specifically task switching and divided attention, suggesting that such reduced cognitive flexibility during extended shifts may compromise clinical performance even after recovery sleep.

[Lien vers l'article](#)

Reliable resting-state EEG connectivity measures reveal brain network destabilization and cognitive decoupling following prolonged extreme working conditions.

Çelik S, Aydın S. *Cogn Neurodyn.* 2026 Dec;20(1):98.

This study aimed to characterize alterations in functional brain network organization in miners with approximately ten years of occupational exposure to extreme working conditions and shift work, using connectivity metrics derived from resting-state EEG recorded during both eyes-open (EO) and eyes-closed (EC) conditions. Directed Transfer Function (DTF), the imaginary part of Coherence, and the weighted Phase Lag Index were computed from non-overlapping 6-s epochs following two preprocessing pipelines: Independent Component Analysis and Artifact Subspace Reconstruction (ASR). Analyses were conducted for both miners (19 men, mean age 36.52 ± 5.08 years) and matched controls (19 men, mean age 35.42 ± 5.04 years). DTF demonstrated consistently excellent reliability (Intraclass Correlation Coefficients ≥ 0.75) and revealed significant group differences across all frequency bands when combined with ASR, as determined by linear mixed-effects models with false discovery rate correction ($p < 0.05$), underscoring its high reproducibility. Specifically, miners

exhibited reduced network segregation and integration, reflected by decreases in modularity (Q), global efficiency (GE), local efficiency (LE), clustering coefficient (CC), and transitivity (T) in the delta and theta bands, as well as reduced network resilience (R) at higher frequencies in the EC condition. Within the miner group, higher GE was associated with poorer executive function and slower processing speed, as measured by Trail Making Test subcomponents ($0.51 \leq r \leq 0.71$; $0.0008 \leq p \leq 0.029$). In addition, lower-frequency network metrics (CC, LE, T, and R) showed significant negative correlations with verbal recall performance ($-0.70 \leq r \leq -0.54$; $0.0009 \leq p \leq 0.039$). Collectively, these findings indicate that chronic occupational exposure disrupts the stability and large-scale organization of functional brain networks, resulting in reduced network efficiency and a decoupling between neural connectivity and cognitive performance. From a methodological perspective, the combination of DTF and ASR emerged as the most reliable approach for resting-state EEG connectivity analysis.

[Lien vers l'article](#)

Travail posté et de nuit

Généralités et prévention

Aucun article dans ce bulletin.

Activités physiques

Importance ranking and predictive model construction of WMSDs risk factors among shift-working nurses based on multiple machine-learning algorithms.

Lai LC, Wu HC, Cao XY, Liao YF, Tao PY, Pan X, et al. *BMC Nurs.* 2026 May 27.

BACKGROUND AND OBJECTIVE: Nurses are essential for safeguarding public health, and their physical condition directly affects care quality and patient safety. Work-related musculoskeletal disorders (WMSDs) are highly prevalent in this workforce and may be amplified by circadian disruption. We therefore integrated individual and environmental risk factors, with special attention to night-shift characteristics, to identify and rank determinants of WMSDs among shift-working nurses. Seven machine-learning algorithms were compared to generate a comprehensive, validated prediction tool that enables managers and nurses to implement targeted, proactive interventions and reduce occupational injury. **METHODS:** This study is a cross-sectional study. The general information, lifestyle, psychosocial data, working environment and shift characteristics of shift nurses were collected, and the influencing factors of WMSDs were analyzed. The mean square error increase and residual sum of squares are calculated, and the importance of influencing factors is sorted respectively. The independent influencing factors of WMSDs in shift nurses were included. After screening variables again by Lasso regression, seven prediction models of LDA, PLS, RDA, GLM, RF, SVM-Radial and SVM-Linear were established by machine learning. The AUC, accuracy and specificity median were used to evaluate the prediction efficiency, and the best prediction model was obtained and the accuracy of the prediction factors was verified. **RESULTS:** Among 1 080 shift-working nurses, the WMSD prevalence at any body site was 85.19%. The top-ranked determinants were perceived control, perceived social support, Pittsburgh Sleep Quality Index (PSQI) score, chronotype, frequent bending over, night-shift nap duration, friend support, work support, family support, prolonged neck flexion and years in nursing. The LASSO-selected predictor set comprised dairy intake frequency, shift pattern, monthly night shifts, number of nurses on night duty, post-night-shift recovery days, post-night-shift catch-up sleep, frequent trunk flexion, prolonged neck flexion, PSQI, chronotype and perceived control. Random forest achieved the highest predictive performance (median AUC = 0.919). **CONCLUSIONS:** Individual characteristics, lifestyle, physical condition, occupational features, shift schedule, biomechanical load and psychosocial factors collectively influence WMSD occurrence in nurses. Random forest outperformed the other algorithms and should be carried out in conjunction with various factors in the model.

[Lien vers l'article](#)

Autres pathologies

Investigating the risk of obesity in European night shift workers: a study protocol for cross-sectional and mechanistic studies in the SHIFT2HEALTH Project.

Scionti K, Schoissengeier V, Vaclavkova I, Fleiss H, Cuparencu C, Olsen A, et al. *Obes Facts.* 2026 Jun 4:1-25.

Introduction Approximately one in five workers in Europe is engaged in shift work. Studies reveal that night shift work leads to an increased risk of overweight, obesity and related diseases. Yet, the

biological and behavioural mechanisms underlying these associations are not fully understood. The cross-sectional and mechanistic studies within the European SHIFT2HEALTH project aim to investigate biological, behavioural and psychosocial key risk factors responsible for the association between night work and obesity across five European countries. Methods A multi-centric cross-sectional study is designed to unravel obesogenic risk factors, eating habits and sleep patterns in night shift workers and day workers from the health- and various industrial sectors. Recruitment takes place in Austria, Denmark, Germany, Poland, and the Netherlands, aiming at 500 night shift workers and 500 day workers. Anthropometric measurements, sensory perception and food preference tests are performed, alongside extensive questionnaires. In addition, biological samples (blood, hair, urine, faeces) are collected for biomarker measurements of inflammation, oxidative stress, glycaemic and lipaemic parameters, for microbiome and metabolomics analyses and chronotype assessment. In a nested mechanistic study, night shift workers (N=200) recruited in Austria and in the Netherlands, additionally collect urine samples from all voids over 24 hours during a day shift and a night shift, as well as dried blood spots and tongue swabs at four time points and undergo continuous sleep, activity and light exposure monitoring through actigraphy. The association between night shift work and its metrics with levels of pre-obesity biomarkers will be evaluated in crude and multivariable-adjusted regression models, adjusting for potential confounders. Stratified analyses by age, gender, sector and chronotype will be conducted. Conclusion In the cross-sectional and mechanistic studies of the SHIFT2HEALTH project, biological, behavioural and psychosocial factors of night shift workers will be compared with those of day workers across sectors. The outcomes of these studies will serve as a basis for future intervention studies and, together, will contribute to the development of strategies to prevent and reduce overweight and obesity with the aim to improve the health and wellbeing of night shift workers. Trial registration: clinicaltrials.gov, ID: NCT06288568.

[Lien vers l'article](#)

The Association Between Self-reported Shift Work and Change in Kidney Function in Women and Men in a Multiethnic Population: The HELIUS Study.

Vosters TG, van de Fliert DJ, Jager KJ, Stel VS, Nieuwenhuijsen K, Wijntjens GWM, et al. *J Occup Environ Med.* 2026 Jun 1;68(6):444-54.

OBJECTIVE: This study investigated the association between self-reported shift work and change in kidney function in women and men in a multiethnic cohort. METHOD: Data from the prospective Life in Urban Setting (HELIUS) cohort (3812 women, 3488 men), including adults from 6 ethnic backgrounds based in the Netherlands, were used to assess associations between self-reported shift work and change in estimated glomerular filtration rate (eGFR) and albumin to creatinine ratio (ACR) using sex-stratified linear regressions and mediation analyses. RESULTS: Shift work was associated with a significant decline in eGFR but not ACR among men versus non-shift workers. No significant associations were found for change in eGFR or ACR in women overall. No evidence was found for a mediating role of traditional- and lifestyle-related chronic kidney disease risk factors. CONCLUSION: Shift work may be detrimental to kidney health. Employers and policymakers should consider addressing the potential kidney health risks of shift work, particularly in men.

[Lien vers l'article](#)

Associations of eating duration and shift work with accelerated biological aging among U.S. workers.

Ren X, Li J, Chen L. *J Nutr Health Aging.* 2026 May;30(5):100831.

OBJECTIVES: Eating duration and shift work can both influence circadian rhythm, which is crucial for longevity. However, their joint associations on the aging process remain unexplored. We aimed to examine the independent and joint associations of eating duration and shift work with accelerated biological aging (ABA) in a representative sample of U.S. workers. DESIGN AND SETTING: A cross-

sectional study using data from the National Health and Nutrition Examination Survey (NHANES), 2005-2010 and 2017-2018. PARTICIPANTS: We included 10,211, 10,062, and 9,572 workers in eating duration, shift work, and joint association analyses, respectively. MEASUREMENTS: Time of eating occasions were accessed by 24-h dietary recalls, and eating duration was categorized as short (SED: <12 h), moderate (MED: 12-14 h; reference), and long eating duration (LED: ≥14 h). Work schedules were self-reported and classified as shift work (SW) vs. non-shift work (NSW). ABA was defined as biological age exceeding chronological age using the residual method. Adjusted Poisson regressions were used to examine the independent and joint associations. RESULTS: Eating duration had a U-shaped relationship with ABA. SED (PR, 1.13; 95%CI, 1.01-1.27) and LED (PR, 1.07; 95%CI, 0.96-1.19) were associated with higher prevalences of ABA compared to MED. SW was independently associated with a higher prevalence of ABA (PR, 1.10; 95%CI, 1.01-1.20). Workers with both SED and SW had an increased prevalence of ABA (PR, 1.19; 95%CI, 1.02-1.40) compared to those with MED and NSW. CONCLUSIONS: We found that both eating duration and shift work independently and jointly increased the prevalence of accelerated biological aging among U.S. workers.

[Lien vers l'article](#)

Association between night shift work, genetic risk, and chronic kidney disease: a prospective cohort study based on the UK Biobank.

Xu Q, Fan J, Chen Z, Lv D, Zhou D, Shou Z, et al. *Front Public Health*. 2026;14:1772746.

OBJECTIVE: To investigate the association between night shift work and chronic kidney disease (CKD) risk and evaluate the interacting role of genetic susceptibility. METHODS: This prospective cohort study included 252,425 participants from the UK Biobank for current night shift analysis and 67,097 for lifetime exposure. Cox proportional hazards models assessed the relationship between various shift patterns and CKD incidence. Formal interaction analyses (additive and multiplicative scales) and sensitivity analyses were conducted. Reporting followed STROBE guidelines. RESULTS: Compared to those who never or rarely worked night shifts, permanent night shift workers had a significantly higher CKD risk (HR 1.19, 95% CI 1.06-1.34). Lifetime analyses revealed significant associations between incident CKD risk and duration, frequency, shift length, and consecutive shifts. Participants with high genetic risk and permanent night shift exposure had the highest CKD risk (HR 2.49, 95% CI 2.07-2.99). Potential interactions between genetic susceptibility and specific night shift patterns were suggested ($P < 0.05$). Sensitivity analyses further confirmed the robustness of these associations. CONCLUSIONS: Night shift work-particularly permanent schedules and adverse shift patterns-increases the risk of CKD, especially among individuals with high genetic predisposition. Optimizing shift schedules may help reduce CKD incidence.

[Lien vers l'article](#)

Resting energy expenditure and substrate oxidation do not differ between night and day shift workers: A real-life study.

Teixeira KRC, Rossato LT, de Branco FMS, Mendes JA, de Medeiros LA, Cunha TM, et al. *Chronobiol Int*. 2026 May 11:1-8.

This cross-sectional study investigated differences in resting energy expenditure (REE), respiratory quotient (RQ), and substrate utilization between night and day shift workers. A total of 62 male workers (30-night shift, 32 d shifts), aged 21 to 62 y, were assessed for anthropometric measurements, sleep parameters, social jetlag, and daytime sleepiness. Indirect calorimetry was used to evaluate REE, RQ, and carbohydrate and fat oxidation. Linear regression models and Generalized Estimating Equations (GEE) were applied, adjusting for potential confounders. Night shift workers exhibited lower RQ and carbohydrate oxidation and higher fat oxidation compared to day shift workers after adjusting for age. However, after further adjustment for workload, no significant differences in REE were

observed (night: 1843.31 [1737.21-1931.42] kcal/day; day: 1732.74 [1639.58-1825.91] kcal/day, $p = 0.133$), RQ (night: 0.88 [0.86-0.91]; day: 0.90 [0.88-0.93], $p = 0.331$), or substrate oxidation rates - carbohydrate oxidation (g/min: night: 0.20 [0.18-0.23]; day: 0.21 [0.19-0.24], $p = 0.583$) and fat oxidation (g/min: night: 0.04 [0.03-0.06]; day: 0.03 [0.02-0.04], $p = 0.134$) - between night and day shift workers. Night shift work does not differ from day shift work in terms of REE and substrate oxidation. Further longitudinal studies with larger samples are needed to confirm these findings.

[Lien vers l'article](#)

Greater fragmentation of the daily rhythm of energy intake is associated with better insulin sensitivity in rotating shift workers.

Marot LP, Zerón-Rugiero MF, Cambras T, Balieiro LCT, Rosa DE, Lopes T, et al. *Chronobiol Int.* 2026 May 15:1-7.

Shift workers are essential to sustaining the modern 24 h society. However, they experience a higher risk of developing metabolic syndrome, a vulnerability thought to arise from recurrent misalignment between their sleep-wake and fasting-eating schedules. This study aimed to investigate the association between the daily rhythms of energy and macronutrient intake, motor activity (MA), and wrist temperature (WT) with anthropometric and biochemical parameters in rotating shift workers (RSW). Thirty male RSW participated in this 10 d cross-sectional study. Anthropometric and biochemical measurements were collected, and a 10 d 24 h food recall was used to assess energy and macronutrient intake. From these data, daily rhythms of energy intake were characterized, and actigraphy was used to evaluate daily rhythms of MA and WT. Daily rhythms were analyzed using non-parametric analyses including the intradaily variability (IV) and interdaily stability (IS), and associations with outcome variables were tested using partial correlations. A negative association was observed between the IV of the daily rhythms of energy and carbohydrate intake with insulin levels ($p < 0.05$), HOMA-IR ($p < 0.05$), and triglycerides ($p < 0.05$). In contrast, higher IV in the daily rhythm of WT was associated with higher total cholesterol ($p < 0.05$) and LDL-cholesterol ($p < 0.05$). These results suggest that a higher fragmentation (higher IV) of the daily rhythm of energy intake is associated with better glucose tolerance among RSW.

[Lien vers l'article](#)

Navigating Nutrition in a 24/7 World: A Scoping Review of Dietary Intake and Chrononutrition Assessment in Shift Working Populations.

Chatterjee R, Sahu S. *J Hum Nutr Diet.* 2026 Jun;39(3):e70272.

Shift work affects 15-20% of the global workforce and significantly increases risk for obesity, type 2 diabetes, and cardiovascular disease. While dietary disruption is a recognised mechanism, whether research adequately captures meal timing as a critical metabolic determinant remains limited. This scoping review systematically mapped dietary and chrononutrition assessment in shift workers following PRISMA-ScR guidelines, searching five databases through July 2025. Quality assessment was conducted using the Joanna Briggs Institute checklists. Twenty-four studies representing 27,537 participants from 13 countries were included. Shift workers demonstrated consistent dietary disruption with heterogeneous energy patterns: 55% reported excess intake (103-303 kcal/day), 14% showed substantial deficits (1521-1698 kcal/day), and 14% found no differences despite temporal redistribution. Despite energy variability, macronutrient patterns were consistent: increased saturated fat and simple carbohydrates (63%), reduced fibre (24% decrease), and lower fruits, vegetables, and micronutrients (vitamin D, calcium, iodine, iron, carotene). Diet quality indices deteriorated in 88% of studies. Critically, 54% of studies examining shift worker diet failed to assess chrononutrition variables. Among the 46% measuring meal timing, results were remarkably consistent: eating windows extended 2.3-2.6 h, caloric midpoint delayed ~2 h, and last meals occurred 2-3 h later during night shifts, with

later timing and longer eating windows consistently associated with greater daily energy intake ($\beta = 0.32(N) - 0.47(D)$; $p < 0.001$). This evidence mapping reveals that shift work is associated with disruption of both dietary composition and meal timing, yet chrononutrition remains critically neglected. Future research should prioritise validated, time-stamped dietary assessments and test timing-based interventions addressing this modifiable risk factor.

[Lien vers l'article](#)

Structural variation of the pineal gland in shift workers from neuroimaging evidence.

Kim Y, Son H, Park CJ, Choi JY, Lee W. *Chronobiol Int.* 2026 May 14:1-7.

Night work disrupts the circadian system, alters melatonin signaling, and is associated with sleep and mental health disturbances. The pineal gland is central to circadian regulation. However, structural neuroimaging evidence of pineal adaptation to chronic circadian disruption in humans remains limited. This cross-sectional neuroimaging study included 110 healthcare workers, 32 night workers and 78 day workers. High-resolution T1- and T2-weighted magnetic resonance imaging was used to quantify total pineal gland volume, parenchymal volume, and cyst prevalence. Circadian-related sleep disturbance was assessed using the General Sleep Disturbance Scale. Associations with night-work exposure and sleep domains were examined using nonparametric statistical methods. Total and parenchymal pineal volumes did not differ between both workers. However, the pineal cyst prevalence was higher among night workers. Within the night-work group, a greater pineal parenchymal volume correlated positively with sleep-maintenance disturbance. Pineal volume increased during early night-work exposure and subsequently stabilized with longer exposure. Night work was associated with distinct pineal structural features, potentially reflecting morphological adaptations of the human circadian system to chronic disruption. These preliminary findings suggest that pineal morphology could serve as a circadian strain structural marker, but longitudinal studies incorporating direct circadian and hormonal measures are required to establish its biomarker potential.

[Lien vers l'article](#)

Cancers

Circadian Disruption Shift Work and Breast Cancer Risk.

Subramanian H, Kairaitis K. *Sleep Med Clin.* 2026 Jun;21(2):251-9.

Night shift work is designated a probable carcinogen based on epidemiologic studies in humans and mechanistic studies in animals. Increased cancer risk from night shift work is thought to result from the disruption of the normal circadian rhythms from exposure to light at night. Individual cancer risk due to night shift work varies, depending on individual sensitivity of the circadian system to light at night related disruption, pre-existing breast cancer risk, night shift schedules and environmental light at night exposures. Currently, there is no evidence for interventions to minimize or prevent breast cancer risk. Screening at-risk individuals seems appropriate.

[Lien vers l'article](#)

Night shift work and breast cancer risk in healthcare workers.

Hashtroudi A, McElvenny D. *Occup Med (Lond).* 2026 May 19.

[Lien vers l'article](#)

Circadian rhythms as orchestrators of breast cancer metastasis: From molecular mechanisms to chronotherapeutic interventions.

Sabit H, Ghazy A, Albogami K, Abdelhadi OE, Abdel-Ghany S, Arneth B. *Cancer Lett.* 2026 Aug 10;653:218588.

Circadian rhythms orchestrate physiological processes through molecular clocks, regulating up to 43% of genes and influencing breast cancer progression. This review synthesizes recent evidence linking circadian disruption—from shift work, light-at-night exposure, and social jetlag—to increased breast cancer risk and metastasis. Epidemiological studies, including large cohorts like the Nurses' Health Study III, show a 78% higher risk with long-term night shifts, mediated by hormonal disruptions and accelerated cellular aging. Molecular mechanisms reveal subtype-specific clock gene alterations: luminal tumors exhibit estrogen-driven dysrhythmia, HER2-positive tumors show signaling pathway disruptions, and triple-negative tumors feature epigenetic silencing. EMT, invasion, and niche preparation display temporal regulation, with chronodisruption promoting protumorigenic environments. Clinical evidence supports chronotherapy, timing treatments like chemotherapy and immunotherapy to circadian phases for enhanced efficacy and reduced toxicity. Biomarkers from wearables enable personalized interventions, addressing health disparities in shift workers. Integrating circadian biology into oncology promises transformative precision medicine, with ongoing trials validating chronotherapeutic protocols.

[Lien vers l'article](#)

Association between circadian rhythm disruption and the risk of malignancy in patients with thyroid nodules: a propensity score-matched study.

Gu P, Zhang B, Ding Z, Wei Y, Sun Y, Song P, et al. *Front Endocrinol (Lausanne)*. 2026;17:1832788.

BACKGROUND: The rising incidence of thyroid cancer (TC) underscores the need to identify modifiable risk factors for malignancy in patients with thyroid nodules. The role of circadian rhythm disruption (CRD), a pervasive modern lifestyle factor, in TC is poorly understood. We aimed to investigate the association between cumulative CRD and the risk of malignancy and aggressiveness in patients with thyroid nodules. **METHODS:** We conducted a hospital-based, propensity score-matched study involving 2,541 patients who underwent thyroidectomy for thyroid nodules between 2016 and 2019. A novel cumulative circadian rhythm disruption index (cCRDI), integrating sleep insufficiency, shift work history, chronotype/mid-sleep timing, and dietary irregularity, was calculated from preoperative questionnaires. The primary outcome was the definitive postoperative histopathological diagnosis (benign vs. malignant). Propensity score matching (PSM) (1:1) was performed to balance baseline confounders (e.g., age, sex, BMI, TSH levels, and autoimmune status), yielding a cohort of 850 matched pairs (1,700 patients). Conditional logistic regression was used to assess the association between cCRDI and malignancy. **RESULTS:** In the matched cohort, a strong, dose-dependent relationship was observed. Compared to the No CRD group, the adjusted odds ratios (aOR) for malignancy were 1.58 (95% CI: 1.15-2.15) for Low CRD, 1.85 (95% CI: 1.30-2.62) for Moderate CRD, and 2.95 (95% CI: 2.05-4.25) for High CRD (P for trend < 0.001). Restricted cubic splines confirmed a non-linear association with accelerating risk at higher cCRDI scores (P for non-linearity = 0.008). Crucially, increasing CRD severity was independently associated with aggressive clinicopathological features, including multifocality, extrathyroidal extension (ETE), and a dramatic increase in lymph node metastasis (LNM) (69.4% in High CRD vs. 29.3% in No CRD, P < 0.001). High CRD remained the strongest independent predictor for LNM in multivariable analysis (aOR = 4.21, 95% CI: 2.90-6.10, P < 0.001). **CONCLUSION:** Cumulative CRD is independently associated with both the presence of malignancy and the aggressive progression of TC in patients with thyroid nodules. Assessing a patient's circadian health might have potential utility as a novel, modifiable factor for risk stratification and may underscore the importance of lifestyle interventions in the clinical management of thyroid nodules.

[Lien vers l'article](#)

Risque routier, accidentologie

Relationships between shift work, mental workload, and needlestick injuries among nurses.

Bidel H, Kazemian Talkhooncheh A, Heidari B, Hasandae Talkhooncheh M. *BMC Nurs.* 2026 Jun 4.

BACKGROUND: Nurses often engage in shift work, which disrupts their circadian rhythms and increases mental workload and fatigue. These factors may associate with and elevate the risk of needlestick injuries. This study aimed to model the pathway from shift work to needlestick injuries through the mediating roles of predictor variables. **METHODS:** In this descriptive-analytical study, 243 nurses from a hospital in Isfahan, Iran, were selected based on predefined inclusion and exclusion criteria. After obtaining informed consent, data were collected using the NASA Task Load Index (NASA-TLX) to assess mental workload, the Wallace and Chen Cognitive Failures Questionnaire, and a standardized Needlestick Injury Questionnaire. Statistical analyses were performed using SPSS software. **RESULTS:** The mean age and work experience of the nurses were 35.85 and 11.61 years, respectively. The mean mental workload and cognitive failure were 81.75 and 63.46, respectively. The results of the bootstrap and Sobel test show that workload (p -value = 0.227) and cognitive failure (p -value = 0.895) do not have a mediating role in the effect of shift work on needlestick incidence in nurses. **CONCLUSION:** These findings support a growing body of evidence indicating that occupational safety in healthcare is a multidimensional phenomenon shaped by organizational conditions as well as individual factors. It is important to consider strategies such as work schedule management, training, supervision, and compliance with safety and health procedures and standards among nurses to reduce the incidence of needlestick injuries.

[Lien vers l'article](#)

RPS et QVT

Shift-Specific Patterns of Nursing Workloads in the Emergency Department: AI Powered Analysis.

Kang Y, Park H, Park I, Choi D, Kim S. *J Adv Nurs.* 2026 May 29.

AIM: To identify and differentiate workload patterns across shifts and to provide evidence for optimizing nursing workforce allocation in emergency departments. **DESIGN:** A cross-sectional study. **METHODS:** Real time data were collected from an emergency department in a general hospital in Seoul, South Korea, between October 30, 2023 to October 24, 2024. Smartphones, beacons, and smartwatches were used to capture nursing time, physical activity, work-related characteristics, and location transitions across 238 shifts. A multiclass eXtreme Gradient Boosting model was developed and evaluated to classify working shifts (day, evening, night). Shapely Additive exPlanations were applied to identify key contributing features, and shift-specific differences were examined using analysis of variance with post hoc tests. **RESULTS:** The model demonstrated strong performance in distinguishing shifts. Key features included the number of admissions, discharges, assigned patients, and both direct and indirect nursing time, all of which varied across shifts. In contrast, location transition patterns were relatively consistent. **CONCLUSION:** Shift-specific nursing workloads in emergency departments can be effectively identified using multidimensional, real-world nursing activity data. **IMPLICATIONS FOR THE PROFESSION AND/OR PATIENT CARE:** Findings support the development of staffing strategies that account for variation in workload across shifts, with potential to improve efficiency and maintain quality of care. **IMPACT:** This study addresses the lack of objective evidence for shift-specific workload differences in emergency nursing. It demonstrates that multidimensional activity data can distinguish workload patterns across shifts. The findings may inform staffing decisions for emergency department nurses and support improvements in workforce

management and patient care. **REPORTING METHOD:** This study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology guidelines. **PATIENT OR PUBLIC CONTRIBUTION:** No patients or members of the public were involved in the design, conduct, analysis, or reporting of this study.

[Lien vers l'article](#)

Reliability and validity of the Chinese version of Nighttime Collaboration Difficulties between Nurses and Physicians for Nurses (NCDNP-N) scale.

Zhang Y, Jiang D, Wei L, Chen L, Cao L, Liu M. *PeerJ*. 2026;14:e21097.

BACKGROUND: The cooperation between nurses and physicians at night is a vital influencing factor of patient treatment and patient safety. Effective communication and collaboration could respond effectively to changes in the patient's condition at night. There is currently a lack of scale to assess the difficulties in collaboration between nurses and physicians during the night shift. While the scale of Nighttime Collaboration Difficulties between Nurses and Physicians for Nurses (NCDNP-N) has been developed in Japan. However, currently China still lacks a scale for assessing the degree of difficulty in collaboration. **OBJECTIVES:** To evaluate the reliability and validity of the Chinese version of NCDNP-N scale among nurses in the context of Chinese clinical nursing. **METHODS:** The translated scale's reliability was assessed by means of Cronbach's α coefficient, split-half reliability, and test-retest reliability. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were employed to assess structural validity. The data was analyzed using SPSS 22.0 and Amos 24.0. **RESULTS:** This was a cross-sectional study conducted among 483 clinical nurses in China. The Cronbach's α coefficient of the Chinese version of NCDNP-N scale was 0.922, the Cronbach's α coefficients of the three dimensions were 0.899, 0.960 and 0.954, respectively. The split-half reliability was 0.874, and the test-retest reliability was 0.886. The cumulative variance contribution rate of the three common factors extracted by exploratory factor analysis with eigenvalues greater than 1 is 86.284%. The results of the CFA showed that the chi-square to degrees of freedom ratio (CMIN/DF) was 1.484, the incremental fit index (IFI) was 0.993 the comparative fit index (CFI) was 0.993, and the goodness-of-fit index (GFI) was 0.963, supporting the efficacy of the scale in assessing the difficulties of cooperation between nurses and physicians of nighttime. **CONCLUSION:** The Chinese version of the NCDNP-N scale demonstrated favourable reliability and validity among nurses, making it a suitable tool for measuring the level of nighttime collaboration difficulties between nurses and physicians for nurses.

[Lien vers l'article](#)

Impact of night work on workers' sleep, mood and quality of life.

Yousfi I, Themri I, Mechergui N, Khemila T, Mhiri I, Ladhari N. *Work*. 2026 May 25:10519815261417656.

Background Night work may be imposed in several work sectors, or chosen by companies because of its economic advantages. However, it may have negative effects on employees' health. **Objective** To assess the repercussions of night work on sleep, mood and quality of life of employees concerned by night work. **Methods** Cross-sectional and descriptive study conducted in 2023 among night workers in two companies. Sleep disorders, mood disorders and quality of life were assessed by the Spiegel questionnaires, the HAD scale and the SF-12 questionnaire. **Results** A total of 199-night workers were included. Mean age was 36.1 ± 8 years. The median Spiegel score was 20 (IQR: 19-21). Sleep quality was pathological in 4.5% and disturbed in 93.5% of cases. The median HAD score was 16 (IQR: 13-20). Anxiety and depression were present in 10.6% and 32.2% of cases, respectively. The median SF-12 global score was 39 (IQR: 37-41). The overall quality of life was slightly impaired in 43.7% and, moderately impaired in 56.3% of cases. A positive correlation was found between quality of life and sleep quality ($r: 0.164$; $p < 10^{-3}$). A negative correlation was found between quality of life and mood

disorders ($r: 0.164$; $p < 10(-3)$) and also between sleep quality and mood disorders ($r: 0.058$; $p = 0.001$). **Conclusions** Our study highlighted the harmful effects of night work on employees' sleep quality, mood and quality of life. The mission of the occupational physician is to ensure better adaptation to night work, through an analysis of working conditions and an implementation of protective measures.

[Lien vers l'article](#)

An Investigation of Sleep Quality, Stress, and Healthy Eating Status Among Shift-Working Firefighters: A Descriptive Cross-Sectional Study.

Sakar Schoinas E, Anik S, Erkul C. *J Occup Environ Med*. 2026 Jun 1;68(6):506-11.

OBJECTIVE: The aims of this study were to assess perceived stress, sleep quality, and healthy eating attitudes among fire department personnel and to examine the relationships among these variables, working in various units of the department daily. **METHODS:** This descriptive cross-sectional study included 188 participants. Data were collected using a sociodemographic form, the Bergen Shift Work Sleep Questionnaire, the Perceived Stress Scale (Short Form), and the Attitude Scale for Healthy Nutrition (ASHN). **RESULTS:** The ASHN total score was 75.84 ± 10.03 , indicating generally positive nutrition attitudes. The Bergen score was 62.94 ± 19.15 , reflecting moderate sleep disturbance. The Perceived Stress Scale score was 11.50 ± 2.61 , showing moderate stress. Weak negative correlations were found between ASHN and the other scales, whereas Bergen and stress scores were positively correlated. **CONCLUSIONS:** Overall, shift-based, stressful firefighting work negatively affected sleep and stress.

[Lien vers l'article](#)

The Attribute of Hardiness in Night Shift Nurses.

Brunson ME. *Crit Care Nurs Clin North Am*. 2026 Jun;38(2):233-40.

Hardiness—a personality trait defined by commitment, control, and challenge—is crucial for night shift nurses facing disrupted circadian rhythms, high stress, and fatigue. Research shows hardiness helps nurses perceive stress as manageable, leading to better mental health, lower burnout, and improved shift work tolerance. Emotional intelligence and supportive work environments further enhance hardiness, while anxiety and poor support diminish it. Despite its importance, studies specifically on night shift nurses are limited. Fostering hardiness through self-care, leadership, and resilience training can improve nurse well-being, job satisfaction, and retention, addressing the unique demands of night shift nursing.

[Lien vers l'article](#)

Turnover Intention and Associated Factors Among Night-Shift Midwives in China: A Cross-Sectional Study.

He D, Zhang J, He J, Zuo J, Meng Y, Li N, et al. *J Nurs Manag*. 2026;2026(1):e5081800.

OBJECTIVE: Midwives play a crucial role in maternal and neonatal health. However, there is a growing global shortage of midwives, and the high turnover rate is a key contributing factor. The research focusing on the turnover intention of night-shift midwives is limited in China. **METHODS:** This cross-sectional study was conducted from January to December 2023 across 493 public hospitals in mainland China, with 1588 night-shift midwives participating. A self-designed questionnaire collected sociodemographic information and night-shift work-related characteristics. Turnover intention was measured using the Turnover Intention Scale, and sleep quality was assessed using the Pittsburgh Sleep Quality Index. Multiple linear regression analysis was conducted to identify factors influencing

turnover intention. RESULTS: A proportion of 49.7% (n = 789) of night-shift midwives reported turnover intentions. Lower turnover intention was associated with being married, having better health status, good sleep quality, and ≥ 15 years of work experience. Higher satisfaction with shift scheduling and overall work were also associated with lower turnover intention. Conversely, completing additional work during rest time after night shifts and experiencing job burnout were associated with higher turnover intentions. CONCLUSIONS: High turnover intention among night-shift midwives represents a significant challenge for maternal health services in China. Hospital administrators may consider prioritizing shift scheduling systems, regularly monitoring job burnout and satisfaction levels, and implementing targeted interventions to reduce turnover and ensure workforce sustainability.

[Lien vers l'article](#)

Life Adjustment of Second- and Third-Year Nurses in Japan Engaged in Shift Work Under a Health Self-Management Program: Qualitative Analysis.

Nagata A. *J Nurs Manag.* 2026;2026(1):e9958511.

AIM: This study aimed to interpretively explore the life adjustment processes of second- and third-year nurses engaged in shift work under a health self-management program, focusing on the integration of professional adaptation and well-being. METHODS: Seven nurses in their second or third year of clinical practice participated in a program utilizing Ryodoraku biofeedback. Data from interviews were analyzed using the Steps for Coding and Theorization method. RESULTS: The adjustment process was conceptualized into three overarching themes: (1) navigating physiological limits and autonomous health regulation, where nurses utilized biofeedback to bridge the gap between subjective fatigue and physiological reality; (2) emotional dissonance and the struggle for agency, involving the negotiation of workplace demands; and (3) integrating professional growth and personal revitalization, where health management became a strategy for professional identity formation. CONCLUSION: The use of visual biofeedback served as a catalyst for participants to reflect on and transition toward proactive self-regulation, instead of passive endurance. The findings suggest that supporting early-career nurses requires not only rest but also tools to visualize physiological states and organizational support to foster professional agency, linking health management directly to career sustainability.

[Lien vers l'article](#)

Shift work and sleep quality, cardiovascular risk, and occupational safety among healthcare workers in Saudi Arabia: a national cross-sectional study.

Algharbi FH, Alquaimi M, Alsulayyim A, Algharbi M, Alshubrami Y, AlGharbi A, et al. *BMC Public Health.* 2026 May 13.

BACKGROUND: Shift work is integral to healthcare delivery and is associated with circadian disruption, poor sleep, and adverse health and occupational safety outcomes. Evidence from Saudi Arabia remains limited, particularly regarding cumulative night shift exposure, cardiovascular risk, and occupational safety across multiple healthcare professions. OBJECTIVE: To examine the association between shift work and sleep quality and cardiovascular risk factors (primary outcomes), as well as perceived stress, obstructive sleep apnea (OSA) risk, and self-reported occupational safety outcomes (secondary outcomes) among Saudi healthcare workers (HCWs). METHODS: An analytical cross-sectional study (December 2025 -January 2026) recruited licensed HCWs via the Saudi Commission for Health Specialties (SCFHS). Participants completed a structured, self-administered, electronic questionnaire capturing demographics, work schedules, cumulative night shift exposure, and validated measures: Pittsburgh Sleep Quality Index (PSQI), Karolinska Sleepiness Scale (KSS), and Perceived Stress Scale (PSS-4). Multivariable logistic models were fitted sequentially (unadjusted, demographic-adjusted, fully adjusted). Dose-response analyses compared cumulative night shift exposure (< 5 vs. ≥ 5 years) with non-shift work. RESULTS: Among 868 respondents (response rate 57.9%), 73.8% were shift

workers. Shift work was not independently associated with composite CVD risk factor burden (adjusted OR = 0.84, 95% CI: 0.49-1.44). However, shift workers had significantly poorer sleep quality (PSQI 11.2 ± 4.1 vs. 8.4 ± 3.6 ; adjusted OR = 2.29, 95% CI: 1.08-4.85) and greater sleepiness (KSS 4.7 ± 2.2 vs. 3.4 ± 1.9 ; Cohen's $d = 0.61$). A dose-response relationship was observed, with ≥ 5 years of night shift exposure associated with higher odds of poor sleep (adjusted OR = 3.03, 95% CI: 1.35-6.83; P -trend = 0.006). Elevated perceived stress was more common among shift workers but attenuated after adjustment (adjusted OR = 1.68, 95% CI: 0.94-3.02). No independent associations were observed with composite CVD risk factor burden (adjusted OR = 0.84, 95% CI: 0.49-1.44), obesity, or high OSA risk. Shift workers reported more cognitive impairment (61.5% vs. 40.2%) and near-miss incidents (28.3% vs. 10.9%), alongside lower perceived safety prioritization (2.9 ± 1.2 vs. 3.2 ± 1.0 , $p = 0.010$). CONCLUSION: Shift work among Saudi HCWs is associated with impaired sleep and increased sleepiness, with evidence of cumulative exposure effects, but not with cardiovascular risk or OSA. The observed safety vulnerabilities underscore the need for longitudinal studies and targeted fatigue risk management strategies, and healthcare workforce planning that integrates shift-work exposure monitoring into occupational health policy.

[Lien vers l'article](#)

Midnight medicine: Empowering night shift to treat opioid use disorder (OUD).

Chambers JY, Janzen KM, Boulton A. *J Opioid Manag.* 2026 Mar-Apr;22(2):129-33.

Hospitalizations for opioid use disorder (OUD) are rising, yet overnight clinicians rarely receive targeted OUD education. Our interprofessional initiative implemented two overnight training sessions specifically for night-shift physicians, nurses, pharmacists, and advanced practice providers, emphasizing buprenorphine initiation, stigma reduction, harm reduction, and patient-centered communication. Participants in the program demonstrated increased confidence in OUD management and a self-reported rise in overnight buprenorphine initiation, highlighting the impact of this tailored night-shift education. Administrative support enabled participation through scheduling adjustments and incentives, while collaboration with TeachOUD enriched content with community resources. To improve overnight care in resource-limited hospitals, we highlight no-cost resources, including teleconsultation hotlines, quick-reference tools, and training designated night-shift OUD champions, promoting accessible and sustainable strategies to enhance OUD care at all hours of the day.

[Lien vers l'article](#)

Santé psychique

Impact of night work on workers' sleep, mood and quality of life.

Youssfi I, Themri I, Mecherghi N, Khemila T, Mhiri I, Ladhari N. *Work.* 2026 May 25:10519815261417656.

Background Night work may be imposed in several work sectors, or chosen by companies because of its economic advantages. However, it may have negative effects on employees' health. Objective To assess the repercussions of night work on sleep, mood and quality of life of employees concerned by night work. Methods Cross-sectional and descriptive study conducted in 2023 among night workers in two companies. Sleep disorders, mood disorders and quality of life were assessed by the Spiegel questionnaires, the HAD scale and the SF-12 questionnaire. Results A total of 199-night workers were included. Mean age was 36.1 ± 8 years. The median Spiegel score was 20 (IQR: 19-21). Sleep quality was pathological in 4.5% and disturbed in 93.5% of cases. The median HAD score was 16 (IQR: 13-20). Anxiety and depression were present in 10.6% and 32.2% of cases, respectively. The median SF-12 global score was 39 (IQR: 37-41). The overall quality of life was slightly impaired in 43.7% and,

moderately impaired in 56.3% of cases. A positive correlation was found between quality of life and sleep quality ($r: 0.164$; $p < 10(-3)$). A negative correlation was found between quality of life and mood disorders ($r: 0.164$; $p < 10(-3)$) and also between sleep quality and mood disorders ($r: 0.058$; $p = 0.001$). **Conclusions** Our study highlighted the harmful effects of night work on employees' sleep quality, mood and quality of life. The mission of the occupational physician is to ensure better adaptation to night work, through an analysis of working conditions and an implementation of protective measures.

[Lien vers l'article](#)

Latent profiles of compassion fatigue and their association with resilience and turnover intention among nurses caring for patients with gastric cancer: a cross-sectional study.

Du J, Hou H. *Front Public Health*. 2026;14:1799278.

BACKGROUND: Oncology nurses caring for patients with gastric cancer are exposed to high-acuity workloads and sustained patient suffering, which may increase compassion fatigue. Prior research has largely examined average relationships across the full sample, which can obscure meaningful differences between nurses. This study aimed to identify latent profiles of compassion fatigue and examine the protective role of psychological resilience and the influence of work characteristics on profile membership. **METHODS:** A cross-sectional sample of 678 nurses from tertiary hospitals who provided care for patients with gastric cancer was recruited. Latent profile analysis (LPA) was conducted using the three Professional Quality of Life (ProQOL) dimensions: Compassion Satisfaction, Burnout, and Secondary Traumatic Stress. Psychological resilience was assessed using the Connor-Davidson Resilience Scale (CD-RISC). Multinomial logistic regression was applied to determine predictors of profile membership. **RESULTS:** Three profiles were identified: Thriving (22.0%; high compassion satisfaction with low burnout and secondary traumatic stress), At-risk (47.9%; moderate levels across dimensions), and Distressed (30.1%; low compassion satisfaction with high burnout and secondary traumatic stress). Turnover intention differed substantially across profiles: 80.4% of nurses in the Distressed profile reported high turnover intention compared with 6.0% in the Thriving profile. Psychological resilience was independently associated with a greater likelihood of Thriving membership relative to Distressed membership ($OR = 1.18$, $p < 0.001$). Frequent night shifts (>5 /month) were associated with reduced odds of Thriving membership ($OR = 0.25$, $p < 0.001$), whereas receipt of psychological training was associated with increased odds of Thriving membership ($OR = 2.10$, $p = 0.009$). **CONCLUSION:** Nearly one-third of nurses caring for patients with gastric cancer experienced severe compassion fatigue accompanied by high turnover intention. Psychological resilience appears protective, and modifiable work characteristics-particularly night-shift burden and access to psychological training-are meaningfully associated with risk status.

[Lien vers l'article](#)

Burnout and Cognitive Performance in the Emergency Department in Turkey: The Relationship with Resident Physicians' Work Schedules.

Akın Özdemir M, Şancı E, Özturan İ U, İnci Ö, Delice Y. *J Emerg Med*. 2026 Jun;85:131-8.

BACKGROUND: Shift durations and working schedules are associated with cognitive fatigue and increased risk of burnout, potentially compromising both physicians' well-being and patient safety. **OBJECTIVES:** This study aims to investigate the effects of different work schedules on cognitive performance and burnout levels among emergency medicine residents by psychological scales and objective cognitive testing. **METHODS:** A total of 110 residents were enrolled from 4 institutions implementing 2 distinct work schedules: 24-hour shift system and 8-hour day + 16-hour night shift model. Cognitive performance was assessed using the Stroop test at multiple time points, and Interference Index (IG) Scores were calculated to quantify the stroop effect. Burnout levels were

evaluated with Maslach Burnout Inventory (MBI). RESULTS: Residents working 24-hour shifts showed significant time-dependent decline in Stroop test performance and IG scores ($p < 0.001$), indicating reduced cognitive function by the end of the shift. Conversely, residents in the 8-hour day shifts also showed cognitive decline ($p < 0.001$), while no significant changes were observed in the 16-hour night shift group. Burnout analysis revealed that emotional exhaustion scores were significantly higher in the 8/16-hour group compared to the 24-hour group ($p = 0.027$), while depersonalization and personal accomplishment scores did not differ significantly between groups. CONCLUSION: Both long and fragmented shift models may impair cognitive performance among emergency medicine residents. Interestingly, the 8/16-hour system was associated with higher emotional exhaustion, despite its shorter duration. These findings underscore the importance of reevaluating shift structures to promote physician wellness and preserve clinical performance.

[Lien vers l'article](#)

Troubles cognitifs et de la vigilance

Impact of night work on workers' sleep, mood and quality of life.

Youssfi I, Themri I, Mechergui N, Khemila T, Mhiri I, Ladhari N. *Work*. 2026 May 25:10519815261417656.

Background Night work may be imposed in several work sectors, or chosen by companies because of its economic advantages. However, it may have negative effects on employees' health. **Objective** To assess the repercussions of night work on sleep, mood and quality of life of employees concerned by night work. **Methods** Cross-sectional and descriptive study conducted in 2023 among night workers in two companies. Sleep disorders, mood disorders and quality of life were assessed by the Spiegel questionnaires, the HAD scale and the SF-12 questionnaire. **Results** A total of 199-night workers were included. Mean age was 36.1 ± 8 years. The median Spiegel score was 20 (IQR: 19-21). Sleep quality was pathological in 4.5% and disturbed in 93.5% of cases. The median HAD score was 16 (IQR: 13-20). Anxiety and depression were present in 10.6% and 32.2% of cases, respectively. The median SF-12 global score was 39 (IQR: 37-41). The overall quality of life was slightly impaired in 43.7% and, moderately impaired in 56.3% of cases. A positive correlation was found between quality of life and sleep quality ($r: 0.164$; $p < 10^{-3}$). A negative correlation was found between quality of life and mood disorders ($r: 0.164$; $p < 10^{-3}$) and also between sleep quality and mood disorders ($r: 0.058$; $p = 0.001$). **Conclusions** Our study highlighted the harmful effects of night work on employees' sleep quality, mood and quality of life. The mission of the occupational physician is to ensure better adaptation to night work, through an analysis of working conditions and an implementation of protective measures.

[Lien vers l'article](#)

Shift work and risk of sleep disturbances in occupational populations: a systematic review and meta-analysis.

Wang Y, Wang PC, Wang XN, Yi L, Diao DL, Yan B. *BMC Public Health*. 2026 May 6.

BACKGROUND: Shift work is common worldwide and disrupts circadian rhythms, which is associated with sleep disturbances. Previous studies have often focused on single occupations or countries, limiting the generalizability of findings. A comprehensive synthesis of the association between shift work and sleep disturbances across diverse populations is lacking. **METHODS:** We conducted a systematic search of major electronic databases up to August 15, 2025, for observational studies examining the association between shift work and sleep disturbances, using odds ratios (ORs) with 95% confidence intervals (CIs). Study quality was assessed using appropriate tools, and evidence

certainty was evaluated with the GRADE framework. Heterogeneity was assessed, and pooled ORs were calculated using fixed- or random-effects models based on the level of heterogeneity. Subgroup analyses were performed by sleep disturbance type, shift type, night-shift duration, occupation, country, region, diagnostic method, and adjustment status. Publication bias was also assessed. RESULTS: Twenty-two cross-sectional studies involving 21,677 participants from eight countries contributed 24 estimates. Shift work was associated with higher odds of sleep disturbances (OR = 1.42, 95% CI: 1.24-1.62), with comparable estimates observed after covariate adjustment (OR = 1.41, 95% CI: 1.18-1.68). Rotating shift (OR = 1.48, 95% CI: 1.23-1.77) and night shift of ≤ 8 hours (OR = 1.77, 95% CI: 1.11-2.81) were associated with higher odds of sleep disturbances. Among occupational groups, healthcare professionals showed higher odds (OR = 1.56, 95% CI: 1.21-2.01). Associations were observed across different types of sleep disturbances, with variation by geographic region and assessment method. Sensitivity analyses indicated the robustness of the estimates. CONCLUSIONS: Shift work, particularly rotating schedules and short night shifts, is robustly and consistently associated with sleep disturbances, with healthcare professionals showing comparatively higher odds. These findings underscore the need for evidence-based occupational health policies and workplace interventions designed to stabilize circadian rhythms and mitigate sleep-related risks in vulnerable populations. TRIAL REGISTRATION: PROSPERO CRD420261285200.

[Lien vers l'article](#)

The validation of measured and self-reported sleep duration and perceived sleep quality: an empirical study with three generations of smartwatches.

Saliba CT, Wilton AR, Sheffield K, Wilkes Q, Anacker M, West CP, et al. *Front Psychiatry*. 2026;17:1767216.

INTRODUCTION: Sleep is routinely assessed in the management of mental health conditions. Wearable technologies like smartwatches offer a non-intrusive method to quantitatively measure sleep. However, there are limited empirical benchmarks for sleep duration and sleep quality measured by wearables against user reports. This study aims to evaluate the concordance between user-reported and smartwatch-measured hours of sleep and sleep quality. METHODS: Participants were recruited from two decentralized digital health well-being studies and completed a 7-day sleep diary while simultaneously wearing their smartwatch to sleep (November 7, 2023 - June 30, 2024). Participants self-reported sleep timestamps and perceived sleep quality using the Sleep Quality Scale. Sleep timestamps and quality were also derived from their smartwatches (Garmin Vívactive 4 2019, Garmin Venu 2 Plus 2022, and Garmin Venu 3/3S 2023). Statistical analyses included paired t-tests, equipercentile linking, and chi-square tests to assess agreement between smartwatch and self-reported sleep parameters. Exploratory analyses established the difference between reported and recorded sleep duration in healthcare shift workers. RESULTS: From 841 sleep instances reported by 130 participants wearing three different generation smartwatches, the mean difference in sleep duration between smartwatch-recorded and participant-reported was 21.22 (Garmin Vívactive), 11.67 (Garmin Venu 2 Plus), and 6.58 (Garmin Venu 3/3S) minutes, respectively. There were statistically significant between-group differences in mean sleep durations assessed by participant self-report vs. Vívactive 4 smartwatches, but not self-report vs. Venu 2 Plus or Venu 3/3S smartwatches. Equipercentile linking revealed concordance between smartwatch sleep scores and self-reported sleep quality using the Sleep Quality Scale (SQS) between 4 and 7, with disagreements observed at the SQS ranges from 0-4 and 7-10. CONCLUSIONS: These results suggest that wearables can reliably measure sleep duration, and future research warrants improvements in algorithms that estimate sleep quality with validations across different wearable vendors.

[Lien vers l'article](#)

An Investigation of Sleep Quality, Stress, and Healthy Eating Status Among Shift-Working Firefighters: A Descriptive Cross-Sectional Study.

Sakar Schoinas E, Anik S, Erkul C. *J Occup Environ Med.* 2026 Jun 1;68(6):506-11.

OBJECTIVE: The aims of this study were to assess perceived stress, sleep quality, and healthy eating attitudes among fire department personnel and to examine the relationships among these variables, working in various units of the department daily. **METHODS:** This descriptive cross-sectional study included 188 participants. Data were collected using a sociodemographic form, the Bergen Shift Work Sleep Questionnaire, the Perceived Stress Scale (Short Form), and the Attitude Scale for Healthy Nutrition (ASHN). **RESULTS:** The ASHN total score was 75.84 ± 10.03 , indicating generally positive nutrition attitudes. The Bergen score was 62.94 ± 19.15 , reflecting moderate sleep disturbance. The Perceived Stress Scale score was 11.50 ± 2.61 , showing moderate stress. Weak negative correlations were found between ASHN and the other scales, whereas Bergen and stress scores were positively correlated. **CONCLUSIONS:** Overall, shift-based, stressful firefighting work negatively affected sleep and stress.

[Lien vers l'article](#)

Arabic version of the General Sleep Disturbance Scale among healthcare night-shift workers: a cross-sectional validation study.

Osama W, Magdy R, Elashiry A, Hussein M, Tarek MA, Abdelbar SMM, et al. *BMJ Neurol Open.* 2026;8(1):e001371.

BACKGROUND AND OBJECTIVES: The General Sleep Disturbance Scale (GSDS) has been translated and amended into various languages with adequate psychometric properties. However, the Arabic version has not been validated before. Therefore, this study aimed to test the validity and reliability of the Arabic GSDS among a sample of healthcare night-shift workers. **METHODS:** This cross-sectional validation study employed an online survey targeting Egyptian healthcare night-shift workers from April to June 2025. The survey included demographic data and the Arabic versions of GSDS and the Pittsburgh Sleep Quality Index (PSQI). **RESULTS:** Four hundred forty-three healthcare night-shift workers with a median age of 29 (25-32) years and a median of 6 (4-8) shifts/month were enrolled. The GSDS had an excellent internal consistency (Cronbach's $\alpha=0.841$). The intraclass correlation coefficient for GSDS was 0.978 (95% CI 0.971 to 0.983), indicating excellent test-retest reliability. The convergent validity was confirmed by the significant positive correlation found between total scores of GSDS and PSQI ($r=0.501$). Moreover, a fair degree of significant correlations were observed between GSDS and sleep onset latency, sleep duration, sleep disturbances, daytime dysfunction and sleep quality ($r=0.324, 0.304, 0.409, 0.441$ and 0.353 , respectively), while the correlations were of weak degree with each of sleep efficiency and sleep medication use sections ($r=0.271$ and 0.231 , respectively). **CONCLUSION:** This study confirmed the excellent reliability as well as the convergent validity of the Arabic GSDS. Therefore, it can be used to assist in the detection of sleep disturbances in Arabic-speaking adults.

[Lien vers l'article](#)

Estimated sleep from an under-mattress device predicts next-day vigilance, working memory, and mental arithmetic performance.

Manners J, Scott H, Guyett A, Stuart N, Catcheside P, Kempes E. *Sleep Adv.* 2026;7(2):zpag045.

STUDY OBJECTIVES: Sleep is vitally important to maintain cognitive function, particularly in shift-work contexts. Sleep trackers can reliably estimate sleep, but the relationship between estimated sleep and specific cognitive domains is unclear. This study examined associations between estimated sleep and

subsequent cognitive performance during a simulated night-shift protocol. **METHODS:** Twenty-four participants (mean [SD] age = 28[9] years) attended the sleep laboratory twice, for an 8-day simulated shift-work experimental protocol under two lighting conditions (standard- vs. circadian-informed lighting). Following a baseline sleep, participants remained awake for 27 h and transitioned to sleeping between 10:00 and 19:00 with cognitive testing between 00:00 and 08:00 for four days. Tests included the Balloon Analogue Risk Task, Continuous Performance task, Digit Symbol Substitution Test (DSST), Iowa Gambling task, Operation-Span task, Psychomotor Vigilance test, Stroop task, Tower of London task, and Trail Making test. Sleep was assessed using an under-mattress sensor (Withings Sleep Analyzer). Linear and non-linear models were used to test associations between estimated sleep and cognitive performance. **RESULTS:** Significant associations were found between sleep metrics and PVT reaction time ($R(2) = .13$, $p = .008$), Operation-Span arithmetic errors ($.15$, $p = .023$), proportion correct on DSST and Stroop tasks ($.06$, $p = .045$; $.09$, $p = .003$), and Stroop reaction time ($.19$, $p = .004$). Random forest models demonstrated that vigilance, working memory, and mental arithmetic were associated with estimated sleep architecture, snoring, and cardiovascular function. **CONCLUSIONS:** Sleep trackers could inform next-day cognitive performance, particularly vigilance, mental arithmetic, and working memory. In so doing, they may enable more informed interpretations of device-derived sleep and management of sleep-related cognitive impairment in future models. This paper is part of the Consumer Sleep Technology Collection.

[Lien vers l'article](#)

Effects of Shift Work Type on Sleep Quality and Cortisol Regulation Among Nurses: A Prospective Observational Study.

Dujmić Ž, Mikšić Š, Mudri Ž, Barišić M, Barać I, Vujanić J, et al. *Int J Environ Res Public Health*. 2026 Apr 26;23(5).

Rotating shift work is a common occupational stressor among healthcare professionals. This study aimed to examine the impact of shift work on sleep quality and cortisol levels among nurses. A prospective observational study was conducted in Croatia in 2025, involving 140 nurses. Sleep quality was assessed using the Fitbit Charge 3 smartwatch over eight consecutive days, and blood cortisol was measured at two time points. Most nurses (98.6%) had a neutral chronotype. Nurses who work day shifts (DSN) achieved significantly higher sleep scores compared with rotating-shift nurses (RSN) (77, IQR 75-80 vs. 73, IQR 68-76; Mann-Whitney U test, $p < 0.001$). RSN also had significantly higher morning cortisol levels at the first measurement (median 431.6, IQR 351.3-496.2 vs. 355.15, IQR 254.9-434.2) nmol/L; $p < 0.001$). In the RSN group, morning cortisol levels at the first measurement were positively correlated with age and years of service, and negatively correlated with circadian rhythm. Smartwatch-based assessments demonstrated that rotating shift work is associated with poorer sleep quality and transient disruption of cortisol regulation. Notably, cortisol levels in rotating-shift nurses returned to levels comparable to those of DSN after two nights of rest, indicating substantial reversibility of the hormonal response. These findings highlight the short-term physiological impact of shift work and underscore the importance of optimizing work schedules and implementing strategies to reduce long-term health risks.

[Lien vers l'article](#)

Shift work and sleep quality, cardiovascular risk, and occupational safety among healthcare workers in Saudi Arabia: a national cross-sectional study.

Algharbi FH, Alquaimi M, Alsulayyim A, Algharbi M, Alshubrami Y, AlGharbi A, et al. *BMC Public Health*. 2026 May 13.

BACKGROUND: Shift work is integral to healthcare delivery and is associated with circadian disruption, poor sleep, and adverse health and occupational safety outcomes. Evidence from Saudi Arabia remains

limited, particularly regarding cumulative night shift exposure, cardiovascular risk, and occupational safety across multiple healthcare professions. **OBJECTIVE:** To examine the association between shift work and sleep quality and cardiovascular risk factors (primary outcomes), as well as perceived stress, obstructive sleep apnea (OSA) risk, and self-reported occupational safety outcomes (secondary outcomes) among Saudi healthcare workers (HCWs). **METHODS:** An analytical cross-sectional study (December 2025 -January 2026) recruited licensed HCWs via the Saudi Commission for Health Specialties (SCFHS). Participants completed a structured, self-administered, electronic questionnaire capturing demographics, work schedules, cumulative night shift exposure, and validated measures: Pittsburgh Sleep Quality Index (PSQI), Karolinska Sleepiness Scale (KSS), and Perceived Stress Scale (PSS-4). Multivariable logistic models were fitted sequentially (unadjusted, demographic-adjusted, fully adjusted). Dose-response analyses compared cumulative night shift exposure (< 5 vs. ≥5 years) with non-shift work. **RESULTS:** Among 868 respondents (response rate 57.9%), 73.8% were shift workers. Shift work was not independently associated with composite CVD risk factor burden (adjusted OR = 0.84, 95% CI: 0.49-1.44). However, shift workers had significantly poorer sleep quality (PSQI 11.2 ± 4.1 vs. 8.4 ± 3.6 ; adjusted OR = 2.29, 95% CI: 1.08-4.85) and greater sleepiness (KSS 4.7 ± 2.2 vs. 3.4 ± 1.9 ; Cohen's $d = 0.61$). A dose-response relationship was observed, with ≥ 5 years of night shift exposure associated with higher odds of poor sleep (adjusted OR = 3.03, 95% CI: 1.35-6.83; P-trend = 0.006). Elevated perceived stress was more common among shift workers but attenuated after adjustment (adjusted OR = 1.68, 95% CI: 0.94-3.02). No independent associations were observed with composite CVD risk factor burden (adjusted OR = 0.84, 95% CI: 0.49-1.44), obesity, or high OSA risk. Shift workers reported more cognitive impairment (61.5% vs. 40.2%) and near-miss incidents (28.3% vs. 10.9%), alongside lower perceived safety prioritization (2.9 ± 1.2 vs. 3.2 ± 1.0 , $p = 0.010$). **CONCLUSION:** Shift work among Saudi HCWs is associated with impaired sleep and increased sleepiness, with evidence of cumulative exposure effects, but not with cardiovascular risk or OSA. The observed safety vulnerabilities underscore the need for longitudinal studies and targeted fatigue risk management strategies, and healthcare workforce planning that integrates shift-work exposure monitoring into occupational health policy.

[Lien vers l'article](#)

Effects of sleep deprivation on cognitive-motor functions and adaptive skill learning among medical residents across 26h night shifts.

Gottlieb A, Ben Yacov M, Heimler B, Hagur-Bahat Y, Wilf M, Plotnik M, et al. *Appl Ergon.* 2026 Jun 4;138:104824.

Sleep deprivation is a pervasive issue in medical training known to impair attention and specific motor abilities, yet its impact on integrated cognitive-motor performance and adaptive motor skill learning during real-world hospital shifts remains insufficiently understood. This study investigated potential declines in these domains across a 26-h night shift and following recovery sleep among medical residents utilizing a Virtual Reality version of the Color Trails Test. The protocol involved thirteen residents who underwent assessment two days prior to the shift, at four time points during the shift, and once more after at least 24 h of recovery sleep. By replicating the core cognitive demands of the classic test while incorporating three-dimensional manual movements, the assessment also included an adaptive module with intermittent left-right mirror reversal to evaluate learning under sleep loss conditions. Findings indicated that completion times improved across sessions, predominantly in mirror-reversal segments, whereas performance on regular segments stabilized following pre-shift practice. Conversely, interference cost increased towards the end of the shift and remained elevated post-shift, suggesting greater relative difficulty in the more demanding condition due to fatigue. Movement distance and speed followed the completion time pattern with progressive improvement. Ultimately, despite preserved motor learning, fatigue appeared to selectively impair higher-order cognitive control, specifically task switching and divided attention, suggesting that such reduced

cognitive flexibility during extended shifts may compromise clinical performance even after recovery sleep.

[Lien vers l'article](#)

HA comme facteur de risque

Généralités et prévention

Aucun article dans ce bulletin.

Activités physiques

Musculoskeletal disorders in ophthalmologists and ophthalmology residents in Brazil.

Nogueira J, Araújo TMC, Cunha C, Cipriano CHA, Ventura CV, Santos MB. *Arq Bras Oftalmol.* 2026;89(3):e20250272.

PURPOSE: To assess musculoskeletal symptoms, identify the most affected body areas, and investigate factors associated with the development of musculoskeletal disorders among ophthalmologists in Brazil. **METHODS:** A survey was conducted using an online questionnaire and snowball sampling. Statistical analyses were performed using Jamovi version 2.3.28, and graphs were generated using RStudio version 2023.06.2 + 561. **RESULTS:** A total of 233 participants (42 ophthalmology residents and 191 ophthalmologists) were included, with a mean age of 40.4 years (standard deviation 11.3; range 25-73 years). Musculoskeletal symptoms were reported by 83% of participants. The cervical region (57.1%), upper back (54.5%), and lumbar region (53.6%) were the most frequently reported sites of pain. A high body mass index was identified in 54.9% of the sample, and 50.2% of participants reported using painkillers in the previous year for musculoskeletal symptoms. The mean duration of professional activity in ophthalmology was 13.5 years, and the mean weekly workload was 39 hours. A significant association was observed between weekly workload and the presence of musculoskeletal disorders ($p=0.045$). **CONCLUSION:** This study demonstrated a high prevalence of musculoskeletal disorders among ophthalmologists in Brazil, particularly involving the cervical, lumbar, and upper back regions, consistent with findings reported in international studies. Important contributing factors include long working hours, a high patient volume, and repetitive or awkward postures during examinations and procedures. Preventive strategies and improvements in working conditions are needed to protect the health and well-being of ophthalmologists.

[Lien vers l'article](#)

Coexistence of neck pain and low back pain, and their association with demographic, occupational, and spine MRI-based morphological factors in dentists.

López Morales A, Baño Alcaraz A, López Nicolás M, García Vidal JA, Cánovas Ambit G. *Eur Spine J.* 2026 May 27.

BACKGROUND: The prevalence of musculoskeletal pain, particularly low back pain (LBP) and neck pain (NP), is notably high among dentists. Several studies have examined associated factors such as age, gender, long working hours, non-ergonomic postures, and repetitive movements. Magnetic resonance imaging (MRI) is considered the gold standard for detecting spinal morphological changes; however, evidence shows that MRI findings do not always correlate with the presence or severity of LBP or NP. **PURPOSE:** This study aimed to compare the relative frequency of coexisting versus isolated NP and LBP and to assess their association with demographic, occupational, and MRI-based morphological factors. **METHODS:** A descriptive cross-sectional study was conducted among actively practicing dentists affiliated with the Professional College of Dentists and Stomatologists of Murcia. Data were collected during a single visit at an authorized radiology unit, including pain types, demographic and occupational data, and MRI measurements. **RESULTS:** A total of 57 dentists participated. LBP was reported by 66.7% of participants, while NP was present in 70%; notably, 47.4% experienced both simultaneously. MRI findings revealed that the most common lumbar alterations were disc bulging (84.2%) and facet joint degeneration (66.7%), while cervical changes included disc bulging (66.7%) and

herniated disc (54.4%). A significant association ($p = 0.010$) was found between younger dentists and the coexistence of both pain types, as well as between middle-aged dentists (40-49 years) and isolated LBP. CONCLUSION: Nearly half of dentists experience coexisting NP and LBP, with coexistence strongly linked to individuals under 40 years of age.

[Lien vers l'article](#)

Autres pathologies

Aucun article dans ce bulletin.

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Aucun article dans ce bulletin.

RPS et QVT

Aucun article dans ce bulletin.

Santé psychique

Aucun article dans ce bulletin.

Troubles cognitifs et de la vigilance

Aucun article dans ce bulletin.

Travail posté et de nuit facteur de risque

Généralités et prévention

Aucun article dans ce bulletin.

Activités physiques

Aucun article dans ce bulletin.

Autres pathologies

The relationship between lifestyle, night shift pattern, mental health and the trajectories of nurses' metabolic diseases: a cohort study of nurses.

Yang M, Che Y, Xu J, Ma X, Chen H, Li B. *Front Public Health*. 2026;14:1743516.

OBJECTIVE: The study aimed to examine the relationship between lifestyle, night shift pattern, mental health and nurses' metabolic diseases. **METHODS:** We included 910 nurses from 2018 to 2022. The Growth mixture model was used to identify the trajectories of metabolic diseases among nurses. And multinomial logistic regression was used to examine the relationship between lifestyle, night shift pattern, mental health and the trajectories of metabolic diseases. **RESULTS:** Three distinct trajectories were identified: Maintaining-Low, Chronically-High group, Maintaining-Low group. Compared to the Maintaining-low group, the correlates of Chronically-high group were lack of dietary preference for vegetables and exercise. Low depression scores, high anxiety scores, night shift pattern with a slow increase in metabolic diseases. **CONCLUSION:** The changes of the number of metabolic diseases among nurses in China are heterogeneous. Lack of dietary preference for vegetables and exercise are significantly related to nurses' metabolic disorders. Among nurses with high initial health level, the correlates of the increase in the number of metabolic diseases are not unhealthy lifestyles, but mental health and night shift pattern.

[Lien vers l'article](#)

Correction: The relationship between lifestyle, night shift pattern, mental health and the trajectories of nurses' metabolic diseases: a cohort study of nurses.

Yang M, Che Y, Xu J, Ma X, Chen H, Li B. *Front Public Health*. 2026;14:1858252.

Authors Min Yang and Ying Che were erroneously omitted as equal contributing authors. The original version of this article has been updated.

[This corrects the article DOI: 10.3389/fpubh.2026.1743516.].

[Lien vers l'article](#)

Migraine as an occupational health risk among nurses in Qassim region, Saudi Arabia: a multicenter study of risk perceptions and associated factors.

Qalawa SAA, Elbqry MG, Elmansy FM, Elgazzar SE, Ashmieg FSO, Al-Ahdal SA, et al. *Front Public Health*. 2026;14:1789630.

BACKGROUND: Migraine is a common neurological disorder and an emerging occupational health risk among nurses due to demanding workloads, shift work, workplace stress, and prolonged screen exposure. Understanding nurses' risk perceptions of migraine and its associated occupational factors

is essential for workforce health planning and healthcare risk management. **AIM:** This study aimed to explore migraine as an occupational health risk among nurses in Saudi Arabia by examining nurses' risk perceptions and identifying associated demographic, occupational, and lifestyle-related factors across multiple healthcare centers. **METHODS:** This descriptive cross-sectional multicenter study was conducted and reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines. A convenience sample of 2012 registered nurses in hospitals affiliated with the Qassim Health Cluster. Using a self-administered online survey to assess migraine prevalence, associated occupational risk factors, and related health characteristics. Descriptive and inferential statistical analyses were performed. **RESULTS:** Among the 2,012 nurses included in the study, 64.5% were female, and 22.6% were aged 26-34 years. Nurses working in the Emergency Department constituted the largest departmental group (11%). Migraine was reported by 40.9% of participants, with 25.6% attributing symptoms primarily to work-related pressure. Nearly one-quarter (23.3%) reported experiencing migraine for 5 years or longer, while only 31.1% expressed satisfaction with their work environment. Significant relationship was identified between migraine occurrence and working department, daily shift duration, number of patients under care, and availability of assistant nurses. Additionally, 59% of the studied nurses demonstrated unsatisfactory behavioral responses toward migraine coping strategies, indicating potential gaps in effective migraine management among nursing staff. **CONCLUSION:** Migraine is highly prevalent among nurses in Saudi Arabia and is significantly associated with occupational workload, work environment characteristics, and lifestyle-related factors. These findings underscore migraine as an important occupational health risk with implications for workforce well-being, healthcare risk management, and policy development.

[Lien vers l'article](#)

Cancers

Aucun article dans ce bulletin.

Risque routier, accidentologie

Aucun article dans ce bulletin.

RPS et QVT

Factors Influencing Nurses' Work-Life Balance: A Systematic Review of Challenges, Opportunities and Strategic Solutions for Healthcare Practice and Policy.

Yang N, Ng YX, Yeoh Lui CX, Woo BFY, Liaw SY. *J Nurs Manag.* 2026;2026(1):e5981858.

AIM: To consolidate existing evidence on the factors affecting nurses' work-life balance. **BACKGROUND:** Work-life balance is an emerging concept among many professions, including nursing. Given the global nursing shortage and high demand for nurses, more attention should be placed on understanding the factors affecting nurses' work-life balance. Better measures can hence be created to improve nurses' work-life balance. **METHODS:** Six databases (PubMed, Excerpta Medica Database, Cumulative Index to Nursing and Allied Health Literature, PsycINFO and Scopus and Web of Science) were searched from inception up to February 2024. A grey literature search and screening of reference lists of relevant papers were also conducted. Identified studies were screened against the eligibility criteria, including population, outcome and type of study. The screening, appraisal and data extraction of the eligible papers were done independently by two reviewers. Available evidence was then synthesised using a convergent integrated approach. **RESULTS:** Twenty-one quantitative studies and

one qualitative study were included. Six themes on factors affecting nurses' work-life balance were derived: (1) sociodemographic characteristics, such as age, gender, income status and marital status, (2) personal life, including family support and social life, (3) job control, with emphasis on control over working hours, (4) job demand, encompassing both physical and psychological impacts, (5) work schedule, with highlight on frequent night shifts and shift changes and (6) working environment, including work culture and settings. DISCUSSION: As evident from this review, work-life balance is a multifactorial concept. Nurses, nurse leaders and healthcare organisations have the shared responsibility of ensuring that nurses have an improved work-life balance. Understanding the different factors affecting nurses' work-life balance can allow these stakeholders to take steps towards improving nurses' work-life balance, which in turn result in better clinical outcomes. However, it should be considered that the evidence gathered in this study might not provide a complete overview of the factors affecting nurses' work-life balance due to the complexities of the topic. CONCLUSION AND IMPLICATIONS FOR NURSING AND/OR HEALTH POLICY: This review provides insight into the factors affecting the work-life balance of nurses and emphasises the need for the involved stakeholders to create strategies including safe-care interventions, flexible working hours and family-friendly policies to enhance nurses' work-life balance.

[Lien vers l'article](#)

The Effect of Decision Fatigue on Job Stress in Midwives: The Mediating Role of Psychological Capital and the Moderating Effect of Perceived Organizational Support.

Lu X, Zhang Y, Ren Z, Chen X, Bai D, Gao J, et al. *J Nurs Manag.* 2026;2026(1):e4433124.

BACKGROUND: Midwives face escalating decision fatigue (DF) and job stress. If left unaddressed, these issues may impair their mental health and clinical performance, compromise maternal and neonatal safety, and exacerbate workforce shortages, making it urgent to explore the underlying influencing mechanisms. This study explored the status of job stress among midwives, analyzed the correlations between DF, psychological capital (PsyCap), perceived organizational support (POS), and job stress and further examined the mediating role of PsyCap as well as the moderating role of POS on the relationship between DF and job stress. METHODS: A multicenter cross-sectional survey was conducted among midwives from 146 Baby-Friendly Hospitals in Sichuan, China, between October 2024 and September 2025. Using multistage stratified cluster sampling, 1263 midwives completed questionnaires on DF, PsyCap, POS, and job stress. SPSS 26.0 was applied for descriptive statistics, one-way ANOVA, and Pearson correlation analysis, while Mplus 8.3 was used to conduct mediation and moderation analyses. RESULTS: The total scores (mean $\pm$ SD) of job stress, DF, PsyCap, and POS among midwives were 90.45 ± 19.57 , 20.58 ± 5.92 , 88.83 ± 14.08 , and 43.71 ± 9.98 , respectively. One-way ANOVA showed significant differences in job stress scores across age, ethnicity, hospital ownership, hospital level, employment type, work experience, and monthly night shifts (all $p < 0.05$). Pearson correlation analysis revealed that job stress was positively correlated with DF ($r = 0.648$, $p < 0.01$) and negatively correlated with PsyCap ($r = -0.673$, $p < 0.01$) as well as POS ($r = -0.342$, $p < 0.01$). PsyCap partially mediated the relationship between DF and job stress (indirect effect = 0.258, 95% CI [0.223, 0.300]). Moreover, POS negatively moderated the path between PsyCap and job stress ($\gamma = -0.165$, $p < 0.001$), indicating a significant moderated mediation effect. CONCLUSION: DF directly increases job stress among midwives and also exerts an indirect effect through PsyCap, with this mediation being moderated by POS. Targeted interventions to reduce DF, enhance PsyCap, and strengthen POS may alleviate job stress and improve midwives' well-being. IMPLICATION FOR NURSING MANAGEMENT: Nursing managers should formulate targeted measures to reduce midwives' DF, improve their PsyCap, and strengthen organizational support. Such comprehensive strategies may effectively relieve job stress, promote occupational well-being, and stabilize the midwifery workforce in Baby-Friendly Hospitals.

[Lien vers l'article](#)

Personal mastery and its predictors among pediatric nurses: a cross-sectional study.

Run J, Qian X, Ge B, Dai X. *Sci Rep.* 2026 Jun 4.

Pediatric nursing is characterized by high stress and unique challenges, making nurses in this specialty vulnerable to burnout. Personal mastery-the extent to which individuals perceive control over their lives and environment-is crucial for maintaining nurses' mental health and ensuring quality patient care. This study aimed to investigate the current status of personal mastery among pediatric nurses and to identify its associated factors. A cross-sectional survey was conducted from November 2025 to February 2026 in a tertiary A-grade children's hospital in China. Data were collected using a self-administered questionnaire comprising a general information sheet and a newly developed Personal Mastery Scale. A total of 342 pediatric nurses were included. The overall personal mastery score was 35.40 ± 4.68 , indicating a relatively moderate level. In bivariate analyses, personal mastery was positively correlated with age ($r = 0.435$, $P < 0.001$), work experience ($r = 0.512$, $P < 0.001$), professional title ($r = 0.468$, $P < 0.001$), marital status ($r = 0.342$, $P = 0.002$), and monthly income ($r = 0.285$, $P = 0.008$), and negatively correlated with night shift frequency ($r = -0.386$, $P < 0.001$). Multiple linear regression analysis identified age group ($\beta = 0.412$, $P = 0.006$), years of work experience ($\beta = 0.528$, $P = 0.001$), and professional title ($\beta = 0.462$, $P = 0.001$) as independent positive correlates of personal mastery, while unmarried status ($\beta = -1.426$, $P = 0.002$) and night shift frequency ($\beta = -0.586$, $P < 0.001$) were independent negative correlates. These factors collectively explained 38.5% of the variance in personal mastery (adjusted $R^2 = 0.385$, $F = 26.428$, $P < 0.001$). Notably, monthly income was significantly associated in bivariate correlation but was not retained in the multivariable model. Personal mastery among pediatric nurses is at a relatively moderate level with substantial room for improvement. Nursing managers should pay particular attention to junior nurses, those with lower professional titles, unmarried nurses, and those working frequent night shifts. Comprehensive interventions-including optimizing shift scheduling, enhancing professional training, and strengthening workplace support systems-are suggested as potential strategies to foster personal mastery, with the goal of promoting occupational mental health and supporting workforce stability.

[Lien vers l'article](#)

Trajectories of sickness absence in healthcare workers: a cohort study in a Spanish hospital between 2018 and 2023.

Lopez-Muley C, Benavides FG, Ramada JM, Serra C, Serra L, Utzet M. *BMC Health Serv Res.* 2026 May 30.

BACKGROUND: Sickness absence (SA) is a key indicator of health and job performance. The COVID-19 pandemic increased workload and stress, potentially affecting healthcare workers' (HCWs) health and retention. This study aimed at identifying vulnerable HCW groups by analysing SA trajectories before and after the pandemic. **METHODS:** A retrospective longitudinal study was conducted using administrative data from HCWs at Hospital del Mar, Barcelona, Spain, 2018-2023. SA was measured as cumulative days per semester. Latent Class Growth Analysis with zero-inflated Poisson models identified SA trajectories. The associations between socio-demographic and employment variables (occupation, shifts, care setting) and SA trajectories was analysed using bivariate analysis and multinomial logistic regression, yielding adjusted odds ratios (aOR) and 95% confidence intervals (95% CI). **RESULTS:** An overall increase in accumulated SA days per semester was observed among HCWs between 2018 and 2023. Five SA trajectories were identified: zero (7.8%), low (53.7%), degrowing (16.4%), growing (15%), and high (7%). Women were more likely to belong to growing (aOR: 1.54; 95% CI: 1.16-2.05) and high (aOR: 1.77; 95% CI: 1.14-2.74) trajectories. Aides were strongly associated with the high trajectory (aOR: 30.7; 95% CI: 9.55-98.7). Working in non-direct care areas was associated with the zero trajectory (aOR: 2.86; 95% CI: 1.79-4.58) and negatively to the high trajectory (aOR: 0.54; 95% CI: 0.31-0.93). Night shifts were associated with the high trajectory (aOR: 1.78; 95% CI: 1.21-2.60).

CONCLUSIONS: SA among HCWs increased 2018-2023, following distinct trajectories related to gender, care level, and occupation. Persistent pandemic effects and key sociodemographic and work-related factors shape these patterns. Targeted occupational health interventions could mitigate SA in high-risk groups and enhance healthcare system resilience.

[Lien vers l'article](#)

Reality shock and its associated factors among newly graduated nurses in China: A cross-sectional study.

Li L, Wang Z, Tang X, Qu J, Zhou H, Chen L, et al. *PLoS One*. 2026;21(5):e0350041.

BACKGROUND: Newly graduated nurses often experience a transition period marked by reality shock, which can adversely affect their professional retention and career development. However, the associated factors remain incompletely understood, and there is a notable gap in evidence regarding the role of the impostor phenomenon in this context. OBJECTIVES: To investigate the reality shock among newly graduated nurses and identify its associated factors, with a specific focus on the impostor phenomenon. METHODS: A cross-sectional design was implemented, and the high-quality reporting of the study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement. From July 2024 to January 2025, a total of 381 newly graduated nurses were recruited from 3 tertiary grade-A hospitals in China by convenience sampling. The inclusion criteria required nurses to hold a valid nurse qualification certificate, be registered at the hospital, have a clinical working time of < 1 year, and provide informed consent while cooperating with investigators. Exclusion criteria applied to hospital trainees, standardized training personnel, and personnel not on duty for various reasons. The Demographic Characteristics Questionnaire, Reality Shock Scale for Newly Graduated Nurses, and Clance Impostor Phenomenon Scale were used. The data was analyzed using descriptive statistics, univariate analyses, correlation, and multiple linear regression analysis. RESULTS: The total scores for reality shock and impostor phenomenon were 93.66 ± 38.94 and 44.19 ± 16.94 , respectively. Reality shock was positively correlated with the impostor phenomenon ($r = 0.635$, $p < 0.01$). Multiple linear regression analysis showed that educational level, monthly income, number of night shifts per month, and impostor phenomenon were the main factors affecting the reality shock among newly graduated nurses (all $p < 0.01$), accounting for 51.80% of the total variance. CONCLUSION: This study identified a moderately high level of reality shock among newly graduated nurses. Key determinants associated with this shock included educational level, monthly income, number of night shifts per month, and impostor phenomenon. Nursing management should develop targeted interventions addressing these modifiable factors, particularly impostor phenomenon, which may help mitigate reality shock and facilitate successful career adaptation among newly graduated nurses.

[Lien vers l'article](#)

Workload and team performance in health care: Evidence from Kenya.

Han D, Clarke-Deelder E, McConnell M. *J Health Econ*. 2026 May;107:103138.

Heavy workloads facing health care providers may lead to changes in care processes that, in turn, affect quality of care and patient outcomes. Using direct observations of vaginal deliveries in three high-volume Kenyan hospitals, we study how workload affects care in maternity wards - a high-stress environment where hard-to-schedule patient admissions and uncertainty around labor progression can result in unexpected fluctuations in workload throughout the day. We first document that these facilities are persistently understaffed relative to international staffing benchmarks, implying high baseline workloads. Exploiting short-run variations in provider workload in this environment, we find that workload has little to no effect on quality, as measured by provider adherence to clinical guidelines and disrespectful care. We show that coping strategies employed by providers, such as using

clinical interventions to speed up labor and delegating tasks to less qualified team members, may have weakened the relationship between workload and the quality measures we examine. However, these coping mechanisms could have negative implications for other (unmeasured) aspects of quality. Drawing on anecdotal and other evidence, we propose additional hypotheses for why quality may not be sensitive to workload in this setting.

[Lien vers l'article](#)

Factors influencing vicarious trauma among Generation Z nursing interns in ICU practice: a cross-sectional study.

Duan C, Li H, Zhuang X, Min G, Ma H, Tian H, et al. *BMC Nurs.* 2026 May 26.

BACKGROUND: The ICU is a high-stress environment characterized by frequent exposure to patient suffering and traumatic events, making vicarious trauma a significant occupational hazard for nurses. Generation Z nursing interns face unique challenges during ICU rotations due to insufficient skills and limited resilience. However, their current status regarding vicarious trauma and the factors influencing it still remain underexplored. This study aims to investigate the levels of vicarious trauma and its key influencing factors within this cohort. **METHODS:** A cross-sectional study was conducted in Zhengzhou, China, from July to September 2025, recruiting 240 Generation Z nursing interns through convenience sampling. The instruments used included a demographic characteristics questionnaire, the Vicarious Trauma Questionnaire for Disaster Rescuer (VTQ), the Simplified Coping Style Questionnaire (SCSQ), the Professional Identity Scale for Nursing Students (PISNS), and the Perceived Social Support Scale (PSSS). Data were analyzed using independent t-tests, one-way analysis of variance, Pearson correlation, and multiple stepwise linear regression. **RESULTS:** The mean VTQ score for Generation Z nursing interns was 80.50 ± 26.49 , with one-fifth exhibiting vicarious trauma reactions. Significant associations were observed between VTQ and negative coping styles, PISNS, and PSSS ($r = -0.195$ to -0.216 , $p < 0.01$), as well as between VTQ and positive coping styles ($r = 0.250$, $p < 0.01$). The coefficient of determination ($R^2 = 0.443$) indicated that the ICU rotation sequence, daily working hours, night shift frequency, patient death exposure, perceived workload, sleep quality, coping styles, and perceived social support together explained 44.3% of the variance in vicarious trauma. **CONCLUSION:** This study offers a comprehensive understanding of vicarious trauma among Generation Z nursing interns by identifying multiple influencing factors, including the clinical environment, work arrangements, individual psychology, and social support. To address these issues, the nursing education system should implement measures such as optimizing the clinical environment, adjusting internship arrangements, and enhancing educational guidance to support the mental health of Generation Z nursing interns and reduce the risk of vicarious trauma.

[Lien vers l'article](#)

Self-Care Experiences of Psychiatric Nurses: A Phenomenological Study.

Çaynak S, Karaçar Y, Arslan B, Göktaş A, Karaçar H. *J Psychiatr Ment Health Nurs.* 2026 May 22.

INTRODUCTION: Self-care is both a personal and professional responsibility for nurses; however, academic evidence in this area remains limited. **AIM:** Psychiatric nurses' self-care experiences were examined. **METHOD:** This descriptive phenomenological study included 18 psychiatric nurses from a public hospital, using purposive sampling. Data were collected via semi-structured, individual, and in-depth face-to-face interviews conducted between May and June 2025. Analyses included Colaizzi's seven-stage phenomenological analysis conducted using MAXQDA software. **RESULTS:** Four themes and 13 subthemes were elicited. Nurses reported increased self-care awareness, identified themselves as role models for patients, and emphasized the importance of physical, mental, social, spiritual, and professional self-care, as well as daily routines. Facilitators and barriers included motivation, work-life balance, and emotional burden as individual factors, and workplace experiences, shift work, and

professional perspective as professional factors. **CONCLUSION:** Psychiatric nurses' self-care awareness and strategies play a critical role in individual and professional well-being and in the quality of care, underscoring the need for support at both individual and institutional levels. **IMPLICATIONS FOR PRACTICE:** Training programs and institutional practices promoting self-care awareness and work-life balance may enhance nurses' well-being and the quality of patient care. **RELEVANCE STATEMENT:** This study explored psychiatric nurses' self-care experiences, highlighting factors that influence their well-being and professional practice, including workplace dynamics, shift patterns, and role expectations. Findings on facilitators and barriers to self-care provide valuable insights for designing educational programs and institutional strategies to support nurses' physical, mental, social, spiritual, and professional health. By addressing universal challenges, such as emotional burden and work-life balance, while considering context-specific factors in a specific healthcare context, this study contributes to enhancing psychiatric nursing practice and supporting nurses' well-being in diverse settings.

[Lien vers l'article](#)

Individual and occupational correlates of work ability of Polish employees with visual impairments.

Binder-Olibrowska KW, Jasiński AM, Wrzesińska MA. *Int J Occup Med Environ Health*. 2026 May 22;39(2):163-78.

OBJECTIVES: Although occupational activity is a key determinant of human well-being, labor market participation among people with visual impairments remains low. While barriers to employment for individuals with low vision or blindness have been explored, little is known about how they perceive their own work ability. This study therefore aimed to assess the level of work ability in this population in Poland and identify its correlates, using the person-environment fit model as a theoretical framework. **MATERIAL AND METHODS:** A cross-sectional online survey was conducted among 67 participants with visual impairments, of whom 41 were partially sighted and 60% were women. The questionnaire collected sociodemographic, health, disability, and job-related information, as well as data on social support from colleagues and supervisors (Copenhagen Psychosocial Questionnaire). A dependent variable was measured with the Work Ability Index. Descriptive statistics, correlation, and hierarchical multiple regression analyses were performed. **RESULTS:** Participants reported a generally good level of work ability ($M \pm SD$ 37.54 $\pm$ 6.46). Correlation analysis identified 5 variables significantly associated with work ability. In the regression model, 4 remained significant predictors: satisfaction with household income ($\beta = 0.34$, $p < 0.001$), self-rated health ($\beta = 0.27$, $p < 0.01$), presence of additional disability ($\beta = -0.22$, $p < 0.01$), and shift work ($\beta = -0.23$, $p < 0.05$). The model explained 62% of the variance in work ability ($R^2 = 0.62$). Additional analyses indicated that the examined variables explained more variance in the subjective-resource component of WAI than in its objective health component. **CONCLUSIONS:** The findings highlight key personal and occupational factors shaping work ability among employees with visual impairments. Considering these factors in workplace interventions may help sustain employment and promote occupational well-being in this group. *Int J Occup Med Environ Health*. 2026;39(2):163-78.

[Lien vers l'article](#)

Organizational justice and clinical decision-making among emergency nurses: A cross-sectional correlational study.

Alharbi A, Alkubati SA, Albaqawi H, Ali AZ, Hamed LA, Mohammed S, et al. *Int Emerg Nurs*. 2026 Jun;86:101833.

INTRODUCTION: Clinical decision making (CDM) is a vital competence required by nurses, particularly emergency nurses. This study aimed to investigate the relationship between organizational justice and CDM among emergency nurses. **METHODS:** A cross-sectional correlational design was used with 221

emergency nurses from three major public hospitals in Hai'l City, Northeastern Saudi Arabia, from April to June 2025. Data were collected using a sociodemographic characteristics survey, Nursing Decision-Making Scale, and Organizational Justice Questionnaire. The direction and strength of the association between nurses' CDM and organizational justice were measured using Pearson's correlation coefficient (r). Multiple linear regression analysis was used to identify predictors of CDM. RESULTS: Registered nurses, charge nurses, staff working more than five days per week, and staff who reported higher organizational justice demonstrated significantly higher levels of nursing CDM ($p < 0.05$). In contrast, regular night shifts were significantly associated with lower CDM ($p = 0.009$). A significant positive correlation was found between nursing CDM and organizational justice ($r = 0.320$, $p < 0.001$), with a corresponding linear R^2 value of 0.102, indicating that approximately 10.2% of the variance in nursing CDM can be explained by organizational justice. CONCLUSION: This study demonstrates the vital role of organizational justice in influencing emergency nurses' CDM. The findings indicated that nurses' perceptions of procedural justice significantly influenced their engagement and satisfaction in clinical settings.

[Lien vers l'article](#)

Santé psychique

Burnout among anesthesia personnel in Thailand: A national survey of workload, personality traits, and resilience.

Sakulteera N, Puranitee P, Pathanasethpong A, Rattana-Arpa S, Raksamani K. *PLoS One*. 2026;21(5):e0349336.

BACKGROUND: Burnout is a critical issue affecting anesthesia personnel, with implications for both provider well-being and patient safety. This study aimed to examine the prevalence of high-risk burnout among anesthesia providers in Thailand and identify associated demographic, occupational, and psychological predictors. **METHODS:** A national cross-sectional survey was conducted among anesthesia personnel in Thailand. Burnout was assessed using the Maslach Burnout Inventory-Human Services Survey (MBI-HSS), with high-risk burnout defined by emotional exhaustion ≥ 27 and depersonalization ≥ 10 . Personality traits were measured using the 20-item Mini International Personality Item Pool (Mini-IPIP), which evaluates five domains: openness, conscientiousness, extraversion, agreeableness, and neuroticism (scored from 1 to 5). Resilience was assessed using the 10-item Connor-Davidson Resilience Scale (CD-RISC-10), with total scores ranging from 0 to 40 and participants categorized into quartiles. Univariable and multivariable logistic regression analyses were used to identify independent predictors. **RESULTS:** Of the 613 responses received, 593 were included in the final analysis. High-risk burnout was identified in 262 participants (44.2%). The high-risk group had significantly higher neuroticism scores (mean 4.11 ± 0.81) and lower scores for conscientiousness (4.21 ± 0.69), extraversion (3.72 ± 0.82), and agreeableness (4.39 ± 0.78) compared to the non-burnout group. No significant difference was found in openness scores. Regarding resilience, most high-risk participants (76.3%) fell within the lowest CD-RISC-10 quartile (score range 0-29). Independent predictors of high-risk burnout included higher self-reported burnout severity (adjusted OR 3.84, 95% CI: 2.70-5.47), intention to leave the current role (OR 1.73, 95% CI: 1.21-2.47), higher neuroticism (OR 1.28, 95% CI: 1.13-1.46), and lower resilience (OR 0.70, 95% CI: 0.50-0.99). Other factors such as younger age and frequent night shifts were significant in univariable analysis but not in the final adjusted model. **CONCLUSION:** Burnout is prevalent among Thai anesthesia personnel and is strongly associated with individual psychological characteristics-particularly higher neuroticism and lower resilience. These findings support the implementation of targeted interventions such as resilience-building programs, psychological screening, and workload management to reduce burnout risk in anesthesia practice.

[Lien vers l'article](#)

Troubles cognitifs et de la vigilance

Association Between Work Stress and Sleep Disorders in Law Enforcement: A Systematic Review and Meta-Analysis.

Yang H, Tang S. *Nat Sci Sleep*. 2026;18:601666.

BACKGROUND: Law enforcement personnel face diverse occupational stressors, including shift work, organizational pressure, operational demands, and traumatic incidents. Previous systematic reviews have primarily focused on prevalence estimates of sleep disturbances, whereas the strength of the association with occupational stress and the relative contribution of distinct stressor domains remain to be systematically quantified. **METHODS:** This systematic review and meta-analysis followed PRISMA 2020 guidelines and was registered with PROSPERO (CRD420261284369). Four databases (PubMed, Cochrane Library, Web of Science, and SpringerLink) were searched from inception to January 2026. Observational studies using validated instruments to assess occupational stress and sleep outcomes were included. A random-effects model was used to pool odds ratios (ORs). Subgroup analyses distinguished three stressor domains: shift work, work and organizational stress, and dual stress exposure. **RESULTS:** Seventeen studies were included in the qualitative synthesis, of which ten ($N = 5124$) provided data for meta-analysis. Occupational stress was significantly associated with sleep disorders (pooled $OR = 3.51$, 95% $CI: 2.54-4.84$), with moderate to substantial heterogeneity ($I(2) = 69\%$). Subgroup analyses showed that shift work ($OR = 3.02$), work and organizational stress ($OR = 5.94$), and dual stress exposure ($OR = 3.66$) were each associated with elevated sleep risk, with no significant subgroup difference ($P = 0.19$). The dual stress exposure subgroup exhibited high heterogeneity ($I(2) = 87\%$), possibly attributable to differences in measurement tools, study populations, and confounder adjustment. **CONCLUSION:** This study provides a quantitative estimate of the association between occupational stress and sleep disorders in law enforcement personnel. Differentiating occupational stress into distinct stressor domains may help clarify its relationship with sleep, with different stressors potentially operating through distinct pathways (eg, circadian disruption, cognitive rumination, hyperarousal). Methodologically, the study highlights issues in measurement standardization and confounder adjustment. From an intervention perspective, organizational-level strategies-such as enhancing decision-making autonomy and supportive leadership-may warrant further exploration alongside individual-level approaches. Safeguarding sleep health in this population is important for both individual well-being and public safety.

[Lien vers l'article](#)

Association between nursing work environment and decision fatigue in Chinese clinical nurses: A latent profile and mediation analysis.

Gao M, Ou J, Cao H, Suo D, Tang Z, Zhang N. *J Health Psychol*. 2026 May 10:13591053261443097.

This study examined latent subtypes of the nursing work environment and the mediating role of job stress in the association between environment type and decision fatigue among clinical nurses. A total of 812 clinical nurses were included from the four public tertiary hospitals between May 2023 and July 2023. A latent profile analysis was conducted to identify heterogeneity in the nursing work environment. Decision fatigue was predicted by frequent night shifts, extended overtime, and heavy patient load. Job stress partially mediated the link between exhausting-straining environment and decision fatigue and significantly mediated the stagnant-buffered environment decision fatigue association. Findings highlight that enhancing work conditions and reducing stress may mitigate decision fatigue and promote nurses' effectiveness and occupational health.

[Lien vers l'article](#)

Sleep-related behaviours and their associations with overweight, obesity and hypertension in adults.

Pastrnáková J, Šubová L, Gažarová M, Lenártová P, Górnicka M, Habánová M. *Rocz Panstw Zakl Hig.* 2025 Dec 31;76(4):293-9.

BACKGROUND: Sleep plays an important role in physiological regulation and has been increasingly recognised as a contributor to chronic non-communicable diseases, including obesity and hypertension. **OBJECTIVE:** This study examined the relationships between sleep duration, sleep-related problems, and selected health indicators, including BMI (body mass index) and hypertension, and evaluated the prevalence of sleep-related difficulties, stress, and night-shift work in adults. **MATERIAL AND METHODS:** A total of 260 respondents (125 men, aged 42.24 ± 12.35 years; BMI 27.19 ± 4.3 kg/m²; and 135 women, aged 47.83 ± 11.72 years; BMI 26.57 ± 6.54 kg/m²) completed a 14-item questionnaire assessing sleep duration and quality, sleep-related problems, night-time awakenings, fatigue, stress, night-shift work and self-reported chronic conditions, including physician-diagnosed hypertension. **RESULTS:** A significant association was found between insufficient sleep and overweight/obesity ($p = 0.003$), whereas no relationship was observed between sleep duration and hypertension ($p = 0.232$). Overall, 55% of respondents slept fewer than 7 hours, 35% slept 7-8 hours, and 10% slept more than 8 hours per night; overweight or obese individuals reported an average of 6.2 hours of sleep. Sleep problems were reported by 35% of participants, but showed no significant association with BMI. Stress was reported by 53% of respondents and was significantly associated with higher BMI ($p = 0.005$). Night-shift work was reported by 51.8% of participants and was significantly linked to overweight/obesity ($p = 0.039$). Hypertension was reported by 40.3% of respondents and was significantly associated with BMI ($p < 0.0001$), but not with sleep duration. **CONCLUSIONS:** Insufficient sleep, stress, and night-shift work were associated with increased BMI, while no association was found between sleep duration and hypertension. These factors should be considered when addressing weight-related health risks.

[Lien vers l'article](#)

Chronobiologie

Animal

Circadian desynchronization induces diabetes-like conditions in gestational female syrian hamsters.

Mohanty SR, Yadav SK, Haldar C. *Physiol Behav.* 2026 May 29:115402.

Altered light exposure is an emerging risk factor for metabolic health; however, its effects on maternal physiology and pregnancy outcomes remain poorly understood. This study examined the effects of reversing the natural light-dark cycle (12 h dark:12 h light) during pregnancy in hamsters to mimic shift light exposure in human shift workers and assess associated metabolic changes during mid (10.5 days) and late gestation (14.5 days). Our results suggest that shift of light (SL) altered histomorphology, showing sinusoidal congestion, distorted liver architecture, and increased lipid accumulation in adipose tissue. Ultrasound and PAI showed impaired uteroplacental function, retarded fetal growth and reduced oxygenation of implantation sites. SL further disrupted circadian rhythms, gestational weight gain, glucose tolerance, and metabolic stress. SL reduced implantation, irregular embryo spacing, and increased body weight compared to ND. Oral glucose tolerance test (OGTT) showed impaired glucose clearance and hyperglycemia in SL during late gestation. SL decreased SOD/Catalase enzyme activity, suggesting increased oxidative stress. Western blot showed altered GLUT2 and GLUT4 protein expression in the liver and adipose tissue. SL altered the rhythmicity of the circadian protein Cry1 in the liver. qPCR revealed that SL affected clock genes (Bmal1, Per1, Per2, and Cry1) in the SCN, liver, and adipose tissue, indicating misalignment of central and peripheral clock gene rhythms. Our findings suggest that light-induced circadian disruption during pregnancy leads to metabolic dysfunction, increased oxidative stress, and altered clock gene expression in maternal liver and adipose tissues, potentially contributing to adverse gestational outcomes in the hamster.

[Lien vers l'article](#)

Exploring the Influence of Circadian Rhythm Disorders in Metabolic Syndrome through Gut Microbiota.

Wang JM, Wang RQ, Wang Y, Gao XY, Liu SY, Qi SW, et al. *Comb Chem High Throughput Screen.* 2026 May 19.

INTRODUCTION: Metabolic syndrome (MetS) is a chronic metabolic disorder whose global prevalence continues to rise, imposing a significant burden on public health. With the development of round-the-clock societies, shift work has become increasingly commonplace. A growing body of epidemiological evidence indicates that circadian rhythm disruption constitutes a predictable risk factor for MetS; however, the precise mechanisms underlying this relationship remain inadequately understood. This study employed golden hamsters as a model to investigate the effects of circadian rhythm disruption simulated by cyclic light (CL) exposure on MetS. **METHODS:** Thirty-three male golden hamsters (7 weeks old, body weight 120-160 g) were randomly assigned to four groups for a 6-week intervention: the Control group (normal light + normal diet, ND), the high-fat diet group (normal light + HFD, to induce a MetS model), the cyclic light group (CL + normal diet, CL), and the CL + HFD group (CL + HFD). Outcome measures included metabolic indicators, hepatic histopathology, and gut microbiota (analyzed via 16S rDNA sequencing). **RESULTS:** The stability of the MetS model was assessed through measurements of body weight, fasting blood glucose, and total cholesterol levels. The results indicated that CL exposure may further aggravate metabolic disorders associated with MetS. Furthermore, it was observed that CL exposure intensified MetS-related disturbances in gut microbiota, evidenced by an increase in α -diversity and distinct separation in β -diversity. CL exposure in the MetS model golden hamsters resulted in a reduced abundance of Bacteroidetes and Weissella, alongside an overgrowth of Helicobacter. **DISCUSSION:** Circadian rhythm disruption is an independent risk factor for MetS. It further exacerbates metabolic indicators by inducing gut microbiota dysbiosis and promoting the growth of harmful bacteria. Future research should integrate functional metabolomics with faecal

microbiota transplantation studies to validate causal mechanisms and explore clinical translational value. **CONCLUSION:** Circadian rhythm disruption is an independent risk factor for MetS. It exacerbates the pathological progression of MetS by reducing beneficial bacteria and promoting the growth of harmful bacteria, thereby further damaging its metabolic indicators.

[Lien vers l'article](#)

Impact of circadian rhythm disruption on biochemical parameters in mice.

Umer H, Mumtaz T, Weiskirchen R, Aslam S, Ambreen F. *Chronobiol Int.* 2026 Jun 4:1-15.

Disruption of circadian rhythm is common in rotating shift workers, individuals with jet lag, and people with irregular sleep schedules and contributes to metabolic diseases including obesity, type 2 diabetes, metabolic dysfunction-associated steatotic liver disease, and hepatocellular carcinoma. To delineate early metabolic consequences of circadian disruption, we examined glucose, iron, and lipid homeostasis in a murine model of chronic jet lag. Mice were exposed to a validated protocol in which the light cycle was advanced by 8 hours every 2 days, and blood was collected at four Zeitgeber times (ZT0, ZT6, ZT12, ZT18). Jet-lagged mice displayed a progressive rise in random blood glucose toward the dark phase, whereas controls remained within the normal range with a distinct circadian pattern ($p < 0.05$), suggesting altered glucose regulation across day and night. Serum iron remained within normal limits and showed only minor circadian variation compared with controls ($p < 0.05$), indicating largely preserved iron homeostasis. In contrast, lipid metabolism was profoundly altered. Total cholesterol and triglycerides were significantly higher and exhibited phase-shifted rhythms, with exaggerated nocturnal peaks and light-phase elevations. HDL levels were consistently reduced, while LDL/VLDL showed marked increase in concentration (all $p < 0.05$). These patterns are consistent with disturbed hepatic lipid synthesis, export, and peripheral uptake and with increased nocturnal lipid mobilization. Correlation analysis revealed moderate positive associations of glucose with triglycerides and VLDL, a strong correlation between cholesterol and LDL, and a strong inverse correlation between triglycerides and HDL, whereas iron showed only weak relationships with metabolic traits. Together, these data indicate that chronic circadian misalignment preferentially disrupts coordinated glucose and lipid metabolism while iron levels showed modest variations, consistent with early metabolic alterations associated with circadian disruption.

[Lien vers l'article](#)

Not all gut cellular circadian oscillators are food entrainable.

Magaña I, Taufique SKT, Shan Y, Shen M, Ehichioya DE, Takahashi JS, et al. *Proc Natl Acad Sci U S A.* 2026 Jun 2;123(22):e2601012123.

Circadian rhythms are ubiquitous, and most of the organs in the body contain circadian oscillators. The intestine comprises diverse cell types with distinct developmental origins and physiological functions. However, which intestinal cells contain cell-autonomous circadian oscillators and how circadian oscillators in distinct intestinal cell types synchronize with one another and with environmental daily cycles remain poorly understood. To address these questions, we generated a Cre-dependent PER2::LUCIFERASE reporter knock-in mouse that enables ex vivo measurement of circadian oscillations in defined cell populations. Ex vivo gut explants from mice expressing the reporter in one of five major cell types of the muscularis externa-enteric neurons (ENs), enteric glial cells (EGCs), interstitial cells of Cajal (ICCs), smooth muscle cells (SMCs), and muscularis macrophages (MMs)-exhibited robust, self-sustained circadian bioluminescence rhythms, demonstrating that each of these cell types harbors a cell-autonomous circadian oscillator. Importantly, circadian oscillators in ENs, EGCs, SMCs, and MMs entrained to feeding-fasting cycles, whereas circadian oscillators in ICCs remained resistant to food entrainment. These findings reveal that distinct intestinal cell types possess unique entrainment properties, and feeding during inactive time induces heterogeneous phase shifts across gut circadian

oscillators, leading to temporal circadian misalignment within the intestine. As circadian disruptions, such as those associated with shift work, contribute to intestinal disorders, including inflammatory bowel disease and disorders of the gut-brain interaction, studying how intercellular circadian desynchrony influences intestinal homeostasis should provide chronobiology-based therapeutic strategies to combat these diseases.

[Lien vers l'article](#)

Homme

Chronotype and health outcomes in shift-working healthcare professionals: Associations with eating attitudes, depressive symptoms, and quality of life.

Kavak Sinanoğlu G, Sinanoğlu M. *Chronobiol Int.* 2026 May 7:1-8.

Shift work is an essential component of healthcare systems but induces chronic circadian misalignment through disruption of the sleep - wake cycle, nocturnal light exposure, and desynchronization between endogenous biological rhythms and environmental time cues. Such misalignment has been associated with adverse physical and psychological health outcomes. Chronotype, reflecting intrinsic circadian phase preference, has been proposed as a potential modifier of individual responses to shift work; however, its role among shift-working healthcare professionals remains incompletely understood. This cross-sectional study investigated the associations between chronotype and health-related quality of life, depressive symptoms, and eating attitudes among 278 healthcare professionals engaged in rotating shift schedules. Chronotype was assessed using the Morningness - Eveningness Questionnaire and categorized as morning, intermediate, or evening type. Physical and mental health - related quality of life were evaluated using the SF-36, yielding Physical Component Summary (PCS) and Mental Component Summary (MCS) scores. Depressive symptoms and eating attitudes were assessed using validated questionnaires. Group differences were examined using non-parametric tests, and multivariable analyses were performed to adjust for sociodemographic variables and explore non-linear effects. Significant differences in physical health - related quality of life were observed across chronotype groups. Evening-type participants demonstrated lower PCS scores compared with morning and intermediate types ($p < 0.05$), particularly in the Role Physical (RP) domain. However, in multivariable regression analyses, chronotype was not a significant independent predictor of PCS, whereas age and marital status remained significant. No significant differences were observed between chronotype groups in depressive symptoms, eating attitudes, or MCS scores (all $p > 0.05$). In conclusion, chronotype may be associated with differences in physical health - related quality of life among shift-working healthcare professionals; however, these associations appear to be influenced by sociodemographic and contextual factors rather than representing a direct relationship. These findings underscore the complexity of circadian adaptation in shift work and highlight the need for further longitudinal research.

[Lien vers l'article](#)

Circadian Disruption Shift Work and Breast Cancer Risk.

Subramanian H, Kairaitis K. *Sleep Med Clin.* 2026 Jun;21(2):251-9.

Night shift work is designated a probable carcinogen based on epidemiologic studies in humans and mechanistic studies in animals. Increased cancer risk from night shift work is thought to result from the disruption of the normal circadian rhythms from exposure to light at night. Individual cancer risk due to night shift work varies, depending on individual sensitivity of the circadian system to light at night related disruption, pre-existing breast cancer risk, night shift schedules and environmental light

at night exposures. Currently, there is no evidence for interventions to minimize or prevent breast cancer risk. Screening at-risk individuals seems appropriate.

[Lien vers l'article](#)

Circadian rhythms as orchestrators of breast cancer metastasis: From molecular mechanisms to chronotherapeutic interventions.

Sabit H, Ghazy A, Albogami K, Abdelhadi OE, Abdel-Ghany S, Arneth B. *Cancer Lett.* 2026 Aug 10;653:218588.

Circadian rhythms orchestrate physiological processes through molecular clocks, regulating up to 43% of genes and influencing breast cancer progression. This review synthesizes recent evidence linking circadian disruption-from shift work, light-at-night exposure, and social jetlag-to increased breast cancer risk and metastasis. Epidemiological studies, including large cohorts like the Nurses' Health Study III, show a 78% higher risk with long-term night shifts, mediated by hormonal disruptions and accelerated cellular aging. Molecular mechanisms reveal subtype-specific clock gene alterations: luminal tumors exhibit estrogen-driven dysrhythmia, HER2-positive tumors show signaling pathway disruptions, and triple-negative tumors feature epigenetic silencing. EMT, invasion, and niche preparation display temporal regulation, with chronodisruption promoting protumorigenic environments. Clinical evidence supports chronotherapy, timing treatments like chemotherapy and immunotherapy to circadian phases for enhanced efficacy and reduced toxicity. Biomarkers from wearables enable personalized interventions, addressing health disparities in shift workers. Integrating circadian biology into oncology promises transformative precision medicine, with ongoing trials validating chronotherapeutic protocols.

[Lien vers l'article](#)

Restoring circadian disrupted gut microbial metabolite rhythms with phytochemicals: a new avenue against metabolic disease.

Wu L, Li S, Han F, Guo J, Zhang X, Xu L. *Front Microbiol.* 2026;17:1801367.

The global epidemic of metabolic diseases-encompassing obesity, type 2 diabetes mellitus (T2DM), non-alcoholic fatty liver disease (NAFLD), and cardiovascular disease-represents a defining public health challenge of our era. The traditional model of simple caloric excess vs. expenditure has proven insufficient, giving way to a paradigm that acknowledges complex interactions between genetics, environment, and lifestyle, mediated by intricate physiological systems. Among these, the host circadian timing system and the gut microbiome have ascended as pivotal, deeply intertwined regulators of metabolic homeostasis. The gut microbiome, far from a static collection of microbes, constitutes a dynamic and metabolically active community whose composition and, critically, its functional output exhibit profound and predictable diurnal oscillations. The host's circadian clocks regulate microbial rhythms primarily by controlling the daily cycle of feeding and fasting. Modern life induces circadian disruption (CD) through ubiquitous exposure to artificial light at night, shift work, social jet lag, and erratic eating patterns. It perturbs the rhythmic dynamics of the gut ecosystem, leading to a fundamental dysregulation in the temporal production of key microbial metabolites. These metabolites, including short-chain fatty acids, secondary bile acids (BAs), indoles and other tryptophan derivatives, function as indispensable chemical messengers that coordinate peripheral metabolism, immune responses, and energy homeostasis in a precise, time-of-day-dependent manner. Their desynchronization-manifesting as mistimed, deficient, or incessant signaling-directly instigates the core pathologies of metabolic disease: insulin resistance, adipocyte dysfunction, hepatic lipid accumulation, and chronic low-grade inflammation. This review synthesizes current evidence to delineate the multilevel mechanisms through which CD drives the dysregulation of gut microbiome metabolite rhythms and establishes the causal pathways linking this dysrhythmia to metabolic

pathogenesis. Furthermore, we undertake a critical evaluation of the promising therapeutic potential of dietary phytochemicals—a diverse class encompassing polyphenols, glucosinolates, and prebiotic fibers—to act as chrono-therapeutic agents. Through their multifaceted capacity to remodel microbial ecology, calibrate microbial enzymatic output, and reinforce host circadian-metabolic coupling, phytochemicals present a novel, physiologically aligned, and sustainable dietary strategy for the prevention and management of metabolic disorders. We conclude by outlining key translational challenges and propose future research directions essential for harnessing the potential of the "clock-microbiome-metabolite" axis within the framework of precision nutrition and medicine.

[Lien vers l'article](#)

Circadian regulation in intervertebral disc degeneration: mechanisms and clinical implications.

Zhao J, Wang S. *Front Mol Biosci.* 2026;13:1834561.

Circadian rhythms are essential for maintaining intervertebral disc (IDD) homeostasis and regulate cellular metabolism, mechanical responses, and therapeutic efficacy. Core clock genes, especially CLOCK and BMAL1, have central roles in controlling energy metabolism, autophagy, and extracellular matrix production in disc cells. When circadian rhythms are disturbed, the progression of intervertebral disc degeneration (IDD) can be accelerated through increased inflammatory activity and impaired nutrient supply, which is particularly harmful in the avascular environment of the disc. Circadian regulation also influences how disc cells adapt to mechanical stress, thereby helping maintain disc structure and function under both normal and pathological loading conditions. As a result, people who are chronically affected by circadian disruption, such as shift workers or individuals with long-term sleep loss, may have a higher risk of developing IDD. From a therapeutic perspective, strategies based on circadian regulation, including light therapy, time-restricted feeding, and chronotherapy, have shown potential to slow or even reverse degenerative changes by re-establishing synchrony with endogenous biological rhythms. This review summarizes the role of circadian rhythms in IDD homeostasis and IDD progression, and further discusses the clinical significance of circadian-targeted approaches for the prevention and treatment of spinal disorders.

[Lien vers l'article](#)

Circadian Rhythms, NRF2 Signalling and Redox Homeostasis: A Holy Grail for a Healthy Life Course?

Sutton E, Pekovic-Vaughan V. *Free Radic Biol Med.* 2026 May 29.

SIGNIFICANCE: The circadian ~24h timing system coordinates physiological and metabolic processes to anticipate daily environmental changes, yet how molecular clock-driven signals interface with redox signalling to shape health across the life course remain incompletely understood. Redox homeostasis encompasses the adaptive maintenance of a biological steady state through the regulation of reduction-oxidation (redox) reactions. Redox reactions are vital in maintaining cellular functions, from regulating cellular proliferation and differentiation to detoxification of harmful substances and metabolic regulation. This adaptive homeostasis allows cells and tissues to transiently adapt to fluctuating levels of internal and external environmental stressors and build stress resilience to potential damaging stimuli. As we age, our baseline stress-protective systems rise, and our cells and tissues lose the ability to transiently and temporally increase their adaptive capacity further, leading to chronic redox shifts in pathophysiological direction and increased susceptibility to disease and frailty. **RECENT ADVANCES:** Here we integrate circadian timing, NRF2 signalling and redox balance into a unified circadian-NRF2-redox axis as a life course framework for maintaining health from development through ageing. We propose that circadian clocks regulate NRF2 activity through rhythmic modulation of various redox-sensitive transcriptional and post-translational co-regulators, kinases and miRNAs, thereby shaping the amplitude and timing of antioxidant and metabolic responses. Conversely, NRF2-driven transcriptional programmes modulate mitochondrial function,

glutathione synthesis and xenobiotic defence in a time-of-day manner, reinforcing circadian robustness in tissues with high oxidative flux. **CRITICAL ISSUES:** The bidirectional interplay between circadian clocks and NRF2-driven redox adaptations generates predictable redox oscillations that gate energy metabolism, cellular repair and immune responses, influencing susceptibility to chronic diseases, from metabolic and cardiorespiratory to neurodegenerative diseases and cancer. We review evidence from in vitro and in vivo experimental models and human studies showing that circadian/NRF/redox misalignments, whether from shiftwork, light pollution, irregular sleep or chronic feeding, amplify oxidative stress and diminish adaptive responses, accelerating health decline with age. **FUTURE DIRECTIONS:** We propose that lifestyle interventions that realign circadian timing (consistent sleep/wake or feeding/fasting schedules) and pharmacological strategies that enhance NRF2 activity can restore redox balance and improve disease risk profiles, highlighting a unifying target to predict health trajectories and promote lifelong health. Understanding redox-circadian interactions will help optimise person-centred chronomedicine approaches for advocating preventative health across the life course and for designing smarter therapeutic treatments for redox-based diseases, utilising time-of-day administration of drug treatments and clinical interventions.

[Lien vers l'article](#)

The Role of Melatonin and Chronotherapy in the Treatment of Circadian Rhythm Disruption and Depression.

Shen Y, Ahmed A, Fu X, Li P. *Curr Neuropsychopharmacol*. 2026 May 15.

The circadian rhythm is the body's natural timekeeper, determining when to sleep and wake over a 24-hour cycle. This biological clock can be reset by light and temperature, enabling body functions to align with the day-night cycle. Disruptions to the body's circadian rhythm, such as nontraditional shift work schedules, frequent flying, and people who spend too much time looking at screens, are believed to be behind an increase in sleep problems linked to mental health problems such as depression. Research suggests that a 'misalignment' of the body clock may paradoxically lead to either the onset or relapse of depression by the neurotransmitter system and hormone balance. Melatonin, a hormone produced by the pineal gland, plays a crucial role in the circadian cycle by inducing sleepiness when light levels are dim. Deficiencies of melatonin are believed to be behind sleep disturbances as well as depression. One approach to managing these symptoms is to adjust the body clock in light of changing sleep patterns and exposure to bright light. Additionally, the new discipline of chronotherapy may be beneficial. Chronotherapy and light therapy are non-pharmacological interventions targeting realignment of the body's internal circadian rhythm and restoration of sleep quality, with beneficial effects on depression. Such interventions can improve mood and increase well-being by restoring the circadian sleep-wake cycle. As research progresses, the optimal management of the circadian rhythm may prove to be an essential factor in preventing and treating depression and sleep disorders associated with it.

[Lien vers l'article](#)

Chrononutrition-based hypocaloric diets with varying macronutrient and protein distribution in shift workers with prediabetes or type 2 diabetes: Protocol for a randomized controlled trial.

Rodrigo-Carbó C, Tous-Espelosin M, Gracia-Rubio I, Pérez-Calahorra S, Lezcano-Enciso Á, Monjón-González R, et al. *Br J Nutr*. 2026 May 6:1-28.

Shift work is associated with an increased risk of metabolic disorders, including type 2 diabetes, largely due to circadian misalignment, irregular meal patterns, and suboptimal diet quality. Chrononutrition, which focuses on aligning nutrient intake with circadian rhythms, has emerged as a promising strategy to improve metabolic health. Protein intake plays a key role in glucose homeostasis, and high-protein hypocaloric diets have shown benefits in people with type 2 diabetes. However, the effects of higher

evening protein intake in shift workers remain unclear. This trial aims to analyze the effect of three hypocaloric diets differing in macronutrient composition and distribution throughout the day on glycemic control, body composition, and other secondary outcomes in shift workers with overweight or obesity and prediabetes or type 2 diabetes. This is a 12-week, three-arm, parallel-group, single-blind randomized controlled trial including 126 shift workers. Participants are randomized equally to: (A) a high-protein diet with protein-enriched dinner (50-60% of daily protein); (B) a high-protein diet with protein-restricted dinner (10-20% of daily protein); or (C) a normoproteic control diet with usual protein distribution. Primary outcomes include changes in glycemic control and DXA-derived body composition. Secondary outcomes are lipid profile, sleep quality, and quality of life. Other clinical and lifestyle parameters are evaluated to monitor changes throughout the intervention. Assessments are performed at baseline, week 6, and week 12. All analyses will follow the intention-to-treat principle. This study will provide new evidence on how evening protein intake may influence metabolic health in populations exposed to circadian disruption.

[Lien vers l'article](#)

Associations of eating duration and shift work with accelerated biological aging among U.S. workers.

Ren X, Li J, Chen L. *J Nutr Health Aging*. 2026 May;30(5):100831.

OBJECTIVES: Eating duration and shift work can both influence circadian rhythm, which is crucial for longevity. However, their joint associations on the aging process remain unexplored. We aimed to examine the independent and joint associations of eating duration and shift work with accelerated biological aging (ABA) in a representative sample of U.S. workers. **DESIGN AND SETTING:** A cross-sectional study using data from the National Health and Nutrition Examination Survey (NHANES), 2005-2010 and 2017-2018. **PARTICIPANTS:** We included 10,211, 10,062, and 9,572 workers in eating duration, shift work, and joint association analyses, respectively. **MEASUREMENTS:** Time of eating occasions were accessed by 24-h dietary recalls, and eating duration was categorized as short (SED: <12 h), moderate (MED: 12-14 h; reference), and long eating duration (LED: ≥14 h). Work schedules were self-reported and classified as shift work (SW) vs. non-shift work (NSW). ABA was defined as biological age exceeding chronological age using the residual method. Adjusted Poisson regressions were used to examine the independent and joint associations. **RESULTS:** Eating duration had a U-shaped relationship with ABA. SED (PR, 1.13; 95%CI, 1.01-1.27) and LED (PR, 1.07; 95%CI, 0.96-1.19) were associated with higher prevalences of ABA compared to MED. SW was independently associated with a higher prevalence of ABA (PR, 1.10; 95%CI, 1.01-1.20). Workers with both SED and SW had an increased prevalence of ABA (PR, 1.19; 95%CI, 1.02-1.40) compared to those with MED and NSW. **CONCLUSIONS:** We found that both eating duration and shift work independently and jointly increased the prevalence of accelerated biological aging among U.S. workers.

[Lien vers l'article](#)

Greater fragmentation of the daily rhythm of energy intake is associated with better insulin sensitivity in rotating shift workers.

Marot LP, Zerón-Rugiero MF, Cambras T, Balieiro LCT, Rosa DE, Lopes T, et al. *Chronobiol Int*. 2026 May 15:1-7.

Shift workers are essential to sustaining the modern 24 h society. However, they experience a higher risk of developing metabolic syndrome, a vulnerability thought to arise from recurrent misalignment between their sleep-wake and fasting-eating schedules. This study aimed to investigate the association between the daily rhythms of energy and macronutrient intake, motor activity (MA), and wrist temperature (WT) with anthropometric and biochemical parameters in rotating shift workers (RSW). Thirty male RSW participated in this 10 d cross-sectional study. Anthropometric and biochemical measurements were collected, and a 10 d 24 h food recall was used to assess energy and

macronutrient intake. From these data, daily rhythms of energy intake were characterized, and actigraphy was used to evaluate daily rhythms of MA and WT. Daily rhythms were analyzed using non-parametric analyses including the intradaily variability (IV) and interdaily stability (IS), and associations with outcome variables were tested using partial correlations. A negative association was observed between the IV of the daily rhythms of energy and carbohydrate intake with insulin levels ($p < 0.05$), HOMA-IR ($p < 0.05$), and triglycerides ($p < 0.05$). In contrast, higher IV in the daily rhythm of WT was associated with higher total cholesterol ($p < 0.05$) and LDL-cholesterol ($p < 0.05$). These results suggest that a higher fragmentation (higher IV) of the daily rhythm of energy intake is associated with better glucose tolerance among RSW.

[Lien vers l'article](#)

Structural variation of the pineal gland in shift workers from neuroimaging evidence.

Kim Y, Son H, Park CJ, Choi JY, Lee W. *Chronobiol Int.* 2026 May 14:1-7.

Night work disrupts the circadian system, alters melatonin signaling, and is associated with sleep and mental health disturbances. The pineal gland is central to circadian regulation. However, structural neuroimaging evidence of pineal adaptation to chronic circadian disruption in humans remains limited. This cross-sectional neuroimaging study included 110 healthcare workers, 32 night workers and 78 day workers. High-resolution T1- and T2-weighted magnetic resonance imaging was used to quantify total pineal gland volume, parenchymal volume, and cyst prevalence. Circadian-related sleep disturbance was assessed using the General Sleep Disturbance Scale. Associations with night-work exposure and sleep domains were examined using nonparametric statistical methods. Total and parenchymal pineal volumes did not differ between both workers. However, the pineal cyst prevalence was higher among night workers. Within the night-work group, a greater pineal parenchymal volume correlated positively with sleep-maintenance disturbance. Pineal volume increased during early night-work exposure and subsequently stabilized with longer exposure. Night work was associated with distinct pineal structural features, potentially reflecting morphological adaptations of the human circadian system to chronic disruption. These preliminary findings suggest that pineal morphology could serve as a circadian strain structural marker, but longitudinal studies incorporating direct circadian and hormonal measures are required to establish its biomarker potential.

[Lien vers l'article](#)

Combined single-cell RNA sequencing and mendelian randomization to identify biomarkers associated with circadian rhythm in sarcopenia.

Huang Y, Tang L, Li D, Chen L, Wu W, Zeng D, et al. *Mamm Genome.* 2026 May 11;37(1).

Sarcopenia refers to the involuntary loss of skeletal muscle mass and function with aging and is associated with multiple adverse health outcomes. Disruption of normal circadian rhythms due to shift work or nocturnal lifestyle is associated with the risk of several diseases such as metabolic syndrome and cancer. However, its role in sarcopenia remains unclear. The synergy of single-cell RNA sequencing and Mendelian randomization (MR) analysis provides an opportunity to reveal the important involvement of circadian rhythms in the pathogenesis of sarcopenia. Data quality control and normalisation were performed in the single-cell dataset, GSE167186. Then, different cell types were obtained by cell annotation through marker genes. Differentially expressed genes (DEGs) were further analyzed in different cell types. The intersection of DEGs and circadian-related genes in fast skeletal muscle cell were taken. Afterwards, the genes that had causal relationship with sarcopenia were selected as biomarkers by MR analysis. Variations in signaling pathways between different cell types were further analyzed. In GSE167186, 20 different cell populations identified by UMAP cluster analysis were further annotated to 8 cell types using maker genes. Afterwards, 44 DEGs were screened between fast skeletal muscle cell and circadian-related genes. Further MR Analysis yielded three genes

with significant causal association with sarcopenia, which could be used as biomarkers in this study. SMARCD3 was found to have a protective effect against sarcopenia (OR = 0.9183, 95% CI = 0.8577-0.9832, $p = 0.0144$); in contrast, CPED1 (OR = 1.0292, 95% CI = 1.0089-1.0500, $p = 0.0047$) and FNBP4 (OR = 1.1096, 95% CI = 1.0316-1.1934, $p = 0.0051$) were associated with an increased risk of sarcopenia. The analysis of intercellular signaling revealed that the loss of the protective factor SMARCD3 in fast skeletal muscle cell triggers a specific upregulation of EGF signaling directed at FAPs. This study highlights the contribution of circadian rhythms in the pathogenesis of sarcopenia and further defines circadian rhythm-related biomarkers in sarcopenia, as demonstrated by MR analysis and scRNA-seq analysis. This suggests circadian rhythms as a focal point for pathogenesis research and potential therapeutic targeting in sarcopenia.

[Lien vers l'article](#)

Classifying weekday-weekend sleep pattern subtypes via latent class analysis: Associations with daytime functioning.

Hsiao FC, Yu HT, Kang JH, Yang CM. *Chronobiol Int.* 2026 May 24:1-13.

Individuals commonly exhibit different sleep patterns between weekdays and weekends, notably weekend catch-up sleep (wCUS: increased duration) and social jet lag (SJL: delayed timing). This study simultaneously examined both sleep timing and duration to identify distinct patterns of weekday-weekend sleep differences using latent class analysis and to explore their associations with chronotype, sleep disturbance, and well-being. A total of 850 adults (aged 20-55) without diagnosed sleep or psychiatric disorders and not engaged in shift work participated in an online survey assessing their sleep patterns and daytime functioning, including levels of sleepiness, fatigue, depressive symptoms, and stress. Four distinct latent classes of sleep patterns were identified: Regular Sleepers with minimal SJL and no wCUS, Mild Weekend Shift Sleepers with minimal SJL and mild wCUS, Moderate Weekend Shift Sleepers with moderate SJL and wCUS, and Extreme Weekend Shift Sleepers with high SJL and high wCUS. Individuals in the Extreme Weekend Shift Sleepers group reported significantly higher levels of sleepiness, depressive emotions, and insomnia symptoms compared to the other groups, while no significant differences were found among the remaining three groups. These findings suggest that extreme weekend sleep shifts are associated with poorer symptom profiles, consistent with the possibility that larger timing delays and weekday sleep restrictions jointly characterize this subgroup. The pattern indicates a non-linear association in which modest weekend extensions did not correlate with worse symptoms in this sample. These results are descriptive and highlight the need for longitudinal studies to confirm these associations.

[Lien vers l'article](#)

Circadian clock control of breast cancer hallmarks: molecular mechanisms and therapeutic implications.

Hernández-Barrientos LR, Aguilar-Arnal L. *Cancer Metastasis Rev.* 2026 May 8;45(2).

Circadian rhythms regulate physiological functions and critical biological processes in almost all living forms. The circadian system enables organisms to anticipate and adapt to environmental fluctuations, thereby optimizing physiological responses. Proper synchronization between the master pacemaker in the brain and peripheral clocks throughout the organism is essential for maintaining homeostasis and promoting health. Conversely, circadian misalignment is increasingly recognized as a contributing factor in the pathogenesis of various diseases. Emerging evidence implicates circadian disruption as a driver of carcinogenesis. Indeed, epidemiological studies have associated night-shift work and chronic jet lag with an increased risk of cancer. At the molecular level, the biological clock comprises a complex network of transcriptional-translational feedback loops that generates approximately 24-h cycles in gene expression across all tissues. Notably, many clock-regulated genes participate in key pathways

relevant to tumorigenesis, including cell cycle regulation, DNA damage repair, angiogenesis, and metabolism. Moreover, the circadian clock represents a promising therapeutic target in oncology. Numerous clinical trials have demonstrated that chronomodulation of chemotherapeutic agents can enhance treatment efficacy while mitigating adverse effects, thereby improving the quality of life for cancer patients. Hence, advancing our understanding of the molecular interplay between circadian regulation and cancer development may elucidate the role of circadian rhythms in tumorigenesis, facilitate the identification of novel prognostic markers and therapeutic targets, and ultimately improve outcomes in breast cancer patients.

[Lien vers l'article](#)

Cultural and health perspectives of circadian rhythms and human sleep.

Haroon H, Pedada DR. *Chronobiol Int.* 2026 Jun 1:1-15.

Circadian rhythms (CRs) are regulated by the body's internal biological clock and influence various physiological processes such as sleep-wake cycles, hormone secretion, cardiovascular activity, core body temperature, and metabolism. Disruption to these rhythms due to irregular sleep schedules, shift work, artificial light exposure, and modern lifestyle changes are associated with adverse health outcomes. This review examines how human biological clocks have been shaped by evolutionary adaptations to natural light-dark cycles, developmental shifts in chronotype across the lifespan, and cultural factors that structure sleep behaviour across societies. It draws on evidence of segmented sleep patterns in early human societies and age-related shifts from delayed sleep in adolescence to earlier sleep-wake patterns in older adulthood. It further explores how urbanization, changes in work and social schedules, and the expansion of digital technologies and artificial light contribute to circadian misalignment. Databases such as Google Scholar, Scopus, PubMed, and Web of Science were searched systematically in accordance with PRISMA guidelines. Following a screening process, 26 studies met the eligibility criteria and were included in the final synthesis. The selected literature was examined from an anthropological perspective to understand the cross-cultural variation in sleep patterns and to explore how social organization and technological environments shape temporal behaviour. The thematic synthesis highlights how human sleep patterns have evolved, how chronotypes shift with age, how sociocultural practices shape sleep diversity across groups, and how modern lifestyles contribute to circadian misalignment. Drawing on global context and emerging evidence from India, this review identifies areas for future research and emphasizes the need to integrate biological and socio-cultural perspectives to promote overall health and well-being.

[Lien vers l'article](#)

Effects of Shift Work Type on Sleep Quality and Cortisol Regulation Among Nurses: A Prospective Observational Study.

Dujmić Ž, Mikšić Š, Mudri Ž, Barišić M, Barać I, Vujanić J, et al. *Int J Environ Res Public Health.* 2026 Apr 26;23(5).

Rotating shift work is a common occupational stressor among healthcare professionals. This study aimed to examine the impact of shift work on sleep quality and cortisol levels among nurses. A prospective observational study was conducted in Croatia in 2025, involving 140 nurses. Sleep quality was assessed using the Fitbit Charge 3 smartwatch over eight consecutive days, and blood cortisol was measured at two time points. Most nurses (98.6%) had a neutral chronotype. Nurses who work day shifts (DSN) achieved significantly higher sleep scores compared with rotating-shift nurses (RSN) (77, IQR 75-80 vs. 73, IQR 68-76; Mann-Whitney U test, $p < 0.001$). RSN also had significantly higher morning cortisol levels at the first measurement (median 431.6, IQR 351.3-496.2 vs. 355.15, IQR 254.9-434.2) nmol/L; $p < 0.001$). In the RSN group, morning cortisol levels at the first measurement were positively correlated with age and years of service, and negatively correlated with circadian rhythm. Smartwatch-

based assessments demonstrated that rotating shift work is associated with poorer sleep quality and transient disruption of cortisol regulation. Notably, cortisol levels in rotating-shift nurses returned to levels comparable to those of DSN after two nights of rest, indicating substantial reversibility of the hormonal response. These findings highlight the short-term physiological impact of shift work and underscore the importance of optimizing work schedules and implementing strategies to reduce long-term health risks.

[Lien vers l'article](#)

Circadian clock regulation in lung health and disease: molecular mechanisms and therapeutic opportunities.

Baniya P, Puri S, Panth N, Thapa R, Gupta M, Singh SK, et al. *Excli j.* 2026;25:427-57.

Circadian rhythms are endogenous time-keeping mechanisms that organize physiological and cellular functions into approximately 24-hour cycles. These rhythms are generated by conserved molecular clocks composed of interconnected transcription-translation feedback loops involving core regulators such as CLOCK, BMAL1, PERIOD, CRYPTOCHROME, REV-ERB, and ROR proteins. While circadian regulation is best known for governing sleep-wake behavior, mounting evidence demonstrates that peripheral clocks exert critical control over organ-specific physiology. The lung represents a highly rhythmic tissue in which local circadian oscillators coordinate airway tone, immune surveillance, inflammatory signaling, epithelial repair, and metabolic homeostasis. Disruption of circadian timing arising from genetic alterations, environmental stressors, shift work, irregular light exposure, or chronic inflammation has emerged as an important contributor to the development and progression of multiple respiratory diseases, including asthma, chronic obstructive pulmonary disease, pulmonary fibrosis, acute lung injury, sleep-disordered breathing, and lung cancer. At the mechanistic level, dysregulation of clock genes alters inflammatory pathways, oxidative stress responses, mitochondrial metabolism, and cell-cycle control, thereby exacerbating tissue injury and impairing resolution and repair. Recognition of these temporal influences has prompted growing interest in circadian-based therapeutic strategies. Chronotherapy, which aligns drug administration with endogenous biological rhythms, and pharmacological targeting of clock components such as REV-ERBs and RORs, offer promising avenues to improve treatment efficacy while limiting adverse effects. This review integrates current insights into circadian clock architecture, lung-specific regulation, disease mechanisms, and therapeutic potential, highlighting circadian biology as a critical yet underutilized dimension of respiratory medicine. See also the graphical abstract(Fig. 1).

[Lien vers l'article](#)

Conduites addictives

Workplace situations and alcohol consumption: a review of the literature, rationale for the occupational physician.

Murugavel M, Godeau D, Barbotin B, Lejoyeux M, Guillon F, El Khatib A. *Ind Health*. 2026 May 20;64(3):233-41.

The aim of this work is to identify occupational situations that are at risk and/or encourage alcohol use, whatever the type of consumption. This is a review of the literature in search of articles published between 1989 and August 2019, dealing with the effects of work situations on alcohol consumption. A qualitative analysis was conducted on the articles meeting the selection criteria, and the data were summarised based on the main risk factors identified. There is some evidence supporting work organisation as being at risk of alcohol consumption. This concerns mainly shift work and long-working hours, although the relation with drinking behaviours seems to be conflicting. Social relations and interactions within the workplace may induce (or be at risk of) alcohol consumption, particularly in the case of tolerant standards. The results regarding work stress are contradictory. Data regarding physical workload are scarce. Most studies addressed alcohol consumption as a public health issue, in the labour force, and not as an occupational health issue focused on work situations and conditions. Yet this knowledge may help the occupational physician to question the work environment, in order to prevent this risk on a collective technical level and on an individual case-by-case basis.

[Lien vers l'article](#)

Micromanaging bodies: The role of enhancement drugs in adapting to financial work culture.

Collin J, Le Dévédec N, Labarge-Huot E. *Health (London)*. 2026 May 3:13634593261445391.

The use of human enhancement drugs (HED), which include prescription drugs and other substances used for reasons beyond their intended medical use, has been the subject of considerable interest since the late 2000s. However, there is a lack of research exploring how working conditions and organisational norms may significantly contribute to an individual's decision to use substances for enhancement or performance purposes. Building on the concept of pharmaceuticalisation to examine the case of enhancement drugs use in the financial industry, this article highlights how the social context, particularly the workplace, can be central to analysing the causes and modalities of substance use for performance or enhancement purposes. This study therefore approaches the financial sector as a site where such processes may be observed in particularly acute forms. Through a qualitative analysis of an online forum, this study explores the experiences, motivations, opinions and beliefs about such substance use in the financial industry. The findings suggest that substance use is openly discussed in the forum and that difficult working conditions appear to contribute to shaping the modalities of such use. Stress and long working hours were the most reported problems associated with substance use. The study also shows that, far from being neutral, medicines and in particular HED themselves play a key social and normative role in the process of accepting these extreme working conditions. The narratives about the use of performance-enhancing substances created and disseminated within the community studied contribute to the idea that the micromanagement of the worker's bodies is ultimately the main tool available to adapt to their working conditions.

[Lien vers l'article](#)

Polyexposition

Effects of noise exposure and long working hours on oxidative stress levels and high-frequency hearing threshold damage in occupational populations.

Jiang PS, Li YH, Bai LX, Kuang XY, Zhao Y, Tang YX, et al. *Front Public Health*. 2026;14:1827520.

INTRODUCTION: Occupational noise-induced hearing loss remains a significant public health concern in China. This study aimed to investigate the associations between combined exposure to occupational noise and long working hours with oxidative stress levels and high-frequency hearing loss (HFHL) in an occupational population. **METHODS:** A total of 547 Chinese workers from eight manufacturing enterprises in Guangzhou who were engaged in noise-exposed occupations were recruited. Participants were divided into a noise exposure group (weekly working hours ≤ 40 h, $n = 332$) and a combined exposure group (weekly working hours > 40 h, $n = 215$). Pure-tone audiometry was performed, and serum levels of superoxide dismutase (SOD), catalase (CAT), malondialdehyde (MDA), and glutathione peroxidase (GPx) were measured using colorimetric microplate assays. Nonparametric tests and binary logistic regression analyses were conducted. **RESULTS:** The study included 532 males (97.3%) and 15 females (2.7%). Compared with the noise exposure group, the combined exposure group presented significantly lower SOD activity and CAT activity ($p < 0.05$) and significantly higher MDA concentration ($p < 0.05$). The overall prevalence of HFHL was 43.14%, with significantly higher rates in the combined exposure group ($p < 0.001$). Logistic regression analysis revealed that the levels of SOD (OR = 0.869), CAT (OR = 0.963), and MDA (OR = 1.496) were significantly associated with HFHL. In forward stepwise multivariate analysis, only CAT remained an independent influencing factor (OR = 0.963, 95%CI: 0.941-0.985; $p = 0.001$). **CONCLUSION:** Combined exposure to noise and long working hours is associated with exacerbated oxidative stress and high-frequency hearing loss in occupational populations. CAT acts as an independent protective factor against HFHL, suggesting its potential as a biomarker for hearing damage assessment, although prospective validation is needed.

[Lien vers l'article](#)

Reproduction

Multiple maternal occupational exposures during pregnancy and newborn size at birth: analysis of the ELFE cohort, a French longitudinal study of children.

Tartaglia M, Jaunas K, Audignon-Durand S, Houot MT, Turuban M, Roeleveld N, et al. *Scand J Work Environ Health*. 2026 May 14.

OBJECTIVE: We aimed to study multiple occupational exposures selected using an priori hypothesis as well as small-for-gestational age (SGA), birthweight (BW), and head circumference (HC). **METHODS:** We analyzed data from the Étude Longitudinale Française depuis l'Enfance (ELFE) cohort (N=12 851 mother-child pairs with a gestational age >33 weeks). The outcomes of interest were SGA, BW, and HC. Of 47 factors (17 chemical, 8 physical, 4 biological, 12 biomechanical, 3 organizational and 3 psychosocial) to which mothers were exposed in their occupation assessed by job-exposure matrices in this cohort, we included those for which the epidemiological or experimental literature suggests an association with fetal growth. Logistic and linear regression models that included all preselected exposure variables were performed and adjusted for potential confounders. We conducted additional analysis stratified by trimester of pregnancy. **RESULTS:** The logistic model, which included all preselected variables, reported that - for all women - exposure to ultrafine particles (UFP) increased SGA risk [odds ratio (OR) 1.46, 95% confidence interval (CI) 1.12-1.90] while standing decreased it (OR 0.82, 95% CI 0.67-1.00). Among mothers who stopped working during the first/second trimester of pregnancy, we found the same SGA risk for UFP; exposure to high strain also increased the risk (OR 1.81, 95% CI 1.18-2.83). Among those who stopped working during the third trimester, exposure to oxygenated solvents increased SGA risk (OR 2.24, 95% CI 1.08-4.41). In the linear model, for all women, there was a decrease in BW (β -34 grams, 95% CI -66- -1.1) among those exposed to UFP. For mothers who stopped working during the first/second trimester, exposure to vibration increased BW, while among those who stopped working during the third trimester, exposure to night work increased BW. Exposure to oxygenated solvents decreased HC (β -0.22 cm, 95% CI -0.44-0.00) among all women. **CONCLUSION:** These findings suggest the possible influence of chemical and strenuous factors at work on fetal growth, particularly depending on the trimester in which pregnant mothers stopped working. While the combined assessment of multiple exposures did not reveal clear associations, further studies are needed to explore potential interactions and underlying biological mechanisms.

[Lien vers l'article](#)

Association between self-reported poor sleep status and ovulation rate in Chinese women with fertility intentions: a multicentre prospective cohort study protocol.

Su NJ, Huang J, Li H, Chen H, Wang L, Wang S, et al. *BMJ Open*. 2026 May 15;16(5):e113145.

INTRODUCTION: In China, women of childbearing age, who constitute a major demographic of online consumers and professionals in emerging industries are increasingly experiencing significant sleep disturbances. Existing studies have predominantly focused on the association between sleep disorders and polycystic ovary syndrome, often overlooking the independent impact of sleep patterns on ovulatory function in the general population of women attempting conception. Specifically, the synergistic effect of blue light exposure from electronic devices and delayed sleep onset remains underexplored, and evidence regarding the relationship between sleep duration, sleep quality and ovulation rates is insufficient. The primary objective of this study is to investigate the association between sleep habits and ovulation rates among Chinese women with fertility intentions. Second, it aims to determine the correlation between these sleep habits and factors such as screen time, night shift work and regional differences. Third, using a user-friendly sleep monitoring wristband, the study seeks to clarify the quantitative relationship between objective sleep parameters (eg, sleep onset time,

sleep efficiency) and ovulation rates in this population. **METHODS AND ANALYSIS:** This is a 1.5-year multicentre prospective cohort study. Participants will be recruited from at least five reproductive medicine centres in mainland China between May 2025 and December 2026. The study will enrol women aged 20-50 years with fertility intentions. Baseline demographic information and habitual sleep patterns will be assessed through standardised questionnaires, with participants self-reporting their sleep conditions. Prepregnancy biochemical indicators and anthropometric data will be recorded. The primary outcome will be the ovulation rate, with secondary outcomes including pregnancy rate and miscarriage rate. **ETHICS AND DISSEMINATION:** This research project has been approved by the Clinical Research Ethics Committee of Guangdong Provincial Maternal and Child Health Hospital (Approval No.20250072), and has also received approval from the Primary and Specialty Nursing Committee for implementation and development. All participants will be informed verbally and in writing about the study procedures and objectives prior to signing the consent form. Data confidentiality will be ensured, and participants may withdraw their consent at any stage of the research. The findings will be presented at international conferences and published in peer-reviewed scientific journals.

[Lien vers l'article](#)

Circadian desynchronization induces diabetes-like conditions in gestational female syrian hamsters.

Mohanty SR, Yadav SK, Haldar C. *Physiol Behav.* 2026 May 29:115402.

Altered light exposure is an emerging risk factor for metabolic health; however, its effects on maternal physiology and pregnancy outcomes remain poorly understood. This study examined the effects of reversing the natural light-dark cycle (12 h dark:12 h light) during pregnancy in hamsters to mimic shift light exposure in human shift workers and assess associated metabolic changes during mid (10.5 days) and late gestation (14.5 days). Our results suggest that shift of light (SL) altered histomorphology, showing sinusoidal congestion, distorted liver architecture, and increased lipid accumulation in adipose tissue. Ultrasound and PAI showed impaired uteroplacental function, retarded fetal growth and reduced oxygenation of implantation sites. SL further disrupted circadian rhythms, gestational weight gain, glucose tolerance, and metabolic stress. SL reduced implantation, irregular embryo spacing, and increased body weight compared to NDL. Oral glucose tolerance test (OGTT) showed impaired glucose clearance and hyperglycemia in SL during late gestation. SL decreased SOD/Catalase enzyme activity, suggesting increased oxidative stress. Western blot showed altered GLUT2 and GLUT4 protein expression in the liver and adipose tissue. SL altered the rhythmicity of the circadian protein Cry1 in the liver. qPCR revealed that SL affected clock genes (*Bmal1*, *Per1*, *Per2*, and *Cry1*) in the SCN, liver, and adipose tissue, indicating misalignment of central and peripheral clock gene rhythms. Our findings suggest that light-induced circadian disruption during pregnancy leads to metabolic dysfunction, increased oxidative stress, and altered clock gene expression in maternal liver and adipose tissues, potentially contributing to adverse gestational outcomes in the hamster.

[Lien vers l'article](#)

Association between parental firefighting status and adverse birth outcomes in Arizona: a cross-sectional study.

Luna Ramirez P, Valenti M, Clarkson Pereira C, Brown M, Sherman S, Gulotta J, et al. *Occup Environ Med.* 2026 May 21;83(2):61-9.

BACKGROUND: Firefighters are continuously exposed to hazardous conditions including smoke, chemicals, stress, long work shifts and exhaustion, which may lead to a higher risk for chronic conditions and reproductive health issues. However, there is limited research looking at the association between parental firefighting with adverse birth outcomes. This cross-sectional study aimed to determine whether female or male firefighting was associated with adverse birth outcomes.

METHODS: Arizona birth certificates for the years 2006-2013 were used to compare firefighters with teachers, law enforcement officers and all other occupations while stratifying by sex. Logistic regression models estimated ORs and 95% CIs. **RESULTS:** We included 720 686 births, 5490 paternal firefighters and 376 maternal firefighters. Maternal firefighting was associated with increased odds of preterm birth compared with teachers (OR: 1.46, 95% CI 1.06 to 1.97) and all other occupations (OR: 1.41, 95% CI 1.02 to 1.88). Higher odds for neonatal intensive care unit admission were observed when compared with teachers (OR: 1.77, 95% CI 1.22 to 2.48), law enforcement officers (OR: 1.74, 95% CI 1.07 to 2.81) and all other occupations (OR: 1.84, 95% CI 1.30 to 2.56). Paternal firefighting was statistically significantly associated with decreased caesarean section and low birth weight. **CONCLUSIONS:** Female firefighters may have higher odds of adverse birth outcomes. Further research should aim on understanding the biological mechanism behind these associations and ways to mitigate the risk in this population.

[Lien vers l'article](#)

Pathologies cardiovasculaires

Reconsidering the Health Impact of Long Working Hours on Cardiovascular Health.

Faghri PD, Li J, Sembajwe G, Descatha A, Landsbergis P, Dobson Zimmerman M, et al. *J Occup Environ Med*. 2026 Jun 1.

[Lien vers l'article](#)

Shift work and sleep quality, cardiovascular risk, and occupational safety among healthcare workers in Saudi Arabia: a national cross-sectional study.

Algharbi FH, Alquaime M, Alsulayyim A, Algharbi M, Alshubrami Y, AlGharbi A, et al. *BMC Public Health*. 2026 May 13.

BACKGROUND: Shift work is integral to healthcare delivery and is associated with circadian disruption, poor sleep, and adverse health and occupational safety outcomes. Evidence from Saudi Arabia remains limited, particularly regarding cumulative night shift exposure, cardiovascular risk, and occupational safety across multiple healthcare professions. **OBJECTIVE:** To examine the association between shift work and sleep quality and cardiovascular risk factors (primary outcomes), as well as perceived stress, obstructive sleep apnea (OSA) risk, and self-reported occupational safety outcomes (secondary outcomes) among Saudi healthcare workers (HCWs). **METHODS:** An analytical cross-sectional study (December 2025 -January 2026) recruited licensed HCWs via the Saudi Commission for Health Specialties (SCFHS). Participants completed a structured, self-administered, electronic questionnaire capturing demographics, work schedules, cumulative night shift exposure, and validated measures: Pittsburgh Sleep Quality Index (PSQI), Karolinska Sleepiness Scale (KSS), and Perceived Stress Scale (PSS-4). Multivariable logistic models were fitted sequentially (unadjusted, demographic-adjusted, fully adjusted). Dose-response analyses compared cumulative night shift exposure (< 5 vs. ≥5 years) with non-shift work. **RESULTS:** Among 868 respondents (response rate 57.9%), 73.8% were shift workers. Shift work was not independently associated with composite CVD risk factor burden (adjusted OR = 0.84, 95% CI: 0.49-1.44). However, shift workers had significantly poorer sleep quality (PSQI 11.2 ± 4.1 vs. 8.4 ± 3.6 ; adjusted OR = 2.29, 95% CI: 1.08-4.85) and greater sleepiness (KSS 4.7 ± 2.2 vs. 3.4 ± 1.9 ; Cohen's $d = 0.61$). A dose-response relationship was observed, with ≥ 5 years of night shift exposure associated with higher odds of poor sleep (adjusted OR = 3.03, 95% CI: 1.35-6.83; P -trend = 0.006). Elevated perceived stress was more common among shift workers but attenuated after adjustment (adjusted OR = 1.68, 95% CI: 0.94-3.02). No independent associations were observed with composite CVD risk factor burden (adjusted OR = 0.84, 95% CI: 0.49-1.44), obesity, or high OSA risk. Shift workers reported more cognitive impairment (61.5% vs. 40.2%) and near-miss incidents (28.3% vs. 10.9%), alongside lower perceived safety prioritization (2.9 ± 1.2 vs. 3.2 ± 1.0 , $p = 0.010$). **CONCLUSION:** Shift work among Saudi HCWs is associated with impaired sleep and increased sleepiness, with evidence of cumulative exposure effects, but not with cardiovascular risk or OSA. The observed safety vulnerabilities underscore the need for longitudinal studies and targeted fatigue risk management strategies, and healthcare workforce planning that integrates shift-work exposure monitoring into occupational health policy.

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