Introduction Stores' questionnaires survey in 1998 found that UK medical students received a median of 20 minutes education about sleep. We asked whether this situation has improved.
Methods A cross sectional survey of 34 medical degree courses in the UK adapted from Stores '1998 questionnaire including time spent on sleep teaching medicine, sub-topics covered, and forms of assessment.
Results 25 ( $74 \%$ ) UK medical schools responded to our survey. The time spent devoted to sleep medicine during undergraduate training was median 1.5 hours, mode $<1$ hour, and mean 3.2 hours (standard deviation $=2.6$, figure 1). Only two schools had a sleep syllabus or dedicated compulsory module ( $8 \%$, figure 2). When asked whether sufficient time is allotted to sleep and its disorders, $50 \%$ said yes, $38 \%$ said no and $13 \%$ were unsure. Free text comments made by our respondents had recurring themes: sleep medicine is typically subsumed into teaching by other specialities, with the result that course directors are uncertain about the details of provision; obstructive sleep apnoea is often identified as the key or only relevant sleep disorder, knowledge of sleep disorders is regarded as optional, and there is inertia about the prospect of change. However, a substantial minority of respondents are enthusiastic about making improvements to the sleep education they currently provide.
Discussion Sleep medicine remains a neglected topic despite agreement on the importance of sleep in general health. Obstacles to change are similar to those noted by Stores 20 over 20 years ago, including the views that sleep is not a core topic' or the 'curriculum is already too crowded'. Given that doctors are often the first point of contact for the public, we recommend that medical schools should establish and implement a sleep medicine curriculum. We suggest a simple syllabus, available on request.

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## P068 SLEEP QUALITY IN ATHLETES AND EXERCISERS

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Introduction Insomnia symptoms are highly prevalent in athlete populations, with $64 \%-70 \%$ of athletes describing nonrestorative sleep, frequent awakenings at night, daytime
 contribute to poor sleep in athletes are intense schedule of training, competition and travelling, early morning training and night-time competition. ${ }^{5} \quad 6 \quad 9 \quad 11 \quad 15$ The type of sport practiced is also a significant factor, with aesthetic sports and individual sports causing more sleep problems than team ball sports and team sports, respectively. ${ }^{13} \quad 16$ The Cognitive Model of Insomnia explains that a transition from wake to sleep is impaired by cognitive over-activity and intrusive thoughts. ${ }^{7}$ The concept of hyperarousal has become a core component of contemporary explanatory models of insomnia. ${ }^{1} 2710$ Our study aims to 1 ) explore the relationship between arousal, sleep vulnerability and sporting performance, and 2) to inform of what type of sports may select for higher levels of arousal and/or sleep vulnerability.
Methods The study is a controlled online survey designed to compare elite athletes and a non-competitive/lower-level competitive high exercising control group in eight different sections. The survey comprises validated questionnaires (IPAQ; PSQI; FIRST; PSAS; ESS; VAFS; 5-MEQ; TIPI; GAD-7) and additional questions designed to address topics such as napping, fatigue, training schedule and competition schedule.
Results Preliminary results (table 1) from the pilot study $(\mathrm{n}=6)$ show the average sleep time in both groups is at recommended guidelines. Competitive elite athletes report a higher level of arousal in the PSAS cognitive scale (21 vs 17.75), higher fatigue ( 8 vs 6.5 ) and a discrepancy in obtained and desired sleep time when compared to competitive nonelite athletes.
Discussion Elite competitive athletes show a significant cognitive hyperarousal profile, which could have implications for both performance and potential sleep interventions. There are

Abstract P068 Table 1 Results from pilot study of abstract 'sleep quality in athletes and exercisers'

|  | Competitive Elite Athletes | Competitive Non-Elite |
| :--- | :--- | :--- |
| Participants (\% (n)) | $33 \%$ (2) | $66 \%(4)$ |
| Age (years) | 25 | 26.5 |
| Gender (female) | $50 \%$ | $50 \%$ |
| Type of sport (Team) | $100 \%$ | $25 \%$ |
| PSAS* (somatic scale) | 8 | 8.5 |
| PSAS (cognitive scale) | 21 | $7 \mathrm{7hrs}$ |
| Actual sleep time | 7 h 30 min | 7 h |
| Desired sleep time | 7 h 45 min | $0 \%$ |
| Napping (Yes) (\%) | $50 \%$ | 6.5 |
| Average fatigue level** | 8 |  |
| *PSAS - Pre-Arousal Sleep Scale |  |  |
| ** As indicated by the Visual Analogue Fatigue Scale (VAFS) |  |  |

## Abstracts

limitations in interpretation of findings due to the small number of participants in the pilot survey.

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## P069 INVESTIGATING THE IMPACT OF INSULIN RESISTANCE ON AGEING AND WELLBEING USING SLEEP AS A MODEL SYSTEM

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Sleep controlled by the circadian rhythm is essential for many functions including energy conservation, memory consolidation and brain processing. Sleep duration and architecture changes with age. Sleep deprivation is very common in modern society and it has been identified as a major modifiable risk factor for many metabolic diseases.

A cross-sectional analysis was carried out on baseline data from the UK Biobank ( $n=82995$ ). Sociodemographic, healthrelated and lifestyle information were collected using touchscreen questionnaires. Sleep and physical activity parameters were measured objectively using wrist-worn accelerometers (participants were aged 43-79 years). Sleep durations have been categorised into five groups. short sleepers: (1) $<5$ hours/night, (2) 5-6 hours/night, (3) 6-7 hours/night; normal sleepers: (4) 7-8 hours/night; long sleepers: (5) $>8$ hours/ night.

Short objective sleep duration was associated with male gender, older age and lower social status. A greater proportion of males with a sleep duration $<5$ hours/night have very high risk waist circumference ( $>102 \mathrm{~cm}$ ) compared to normal and long sleepers $(22.1 \%, 14.9 \%, 11.7 \%, 10.4 \%$ and $10.2 \%$, respectively). A similar pattern was also seen in females $(60.0 \%, 50.6 \% 43.9 \%, 41.3 \%$ and $40.6 \%$, respectively). The percentage of participants with cardiometabolic diseases is significantly lower in those who sleep between 68 hours/night compared to other short and long sleepers ( $34.8 \%, 27.7 \%, 26.0 \%, 25.9 \%$ and $29.1 \%$, respectively). They also have better health ratings and less likely to have hypertension, diabetes and cardiovascular disease. Finally, those who sleep 6-7 hours were most physically active compared to other sleep groups. In conclusion, 6-8 hours of sleep per night is associated with better metabolic health and higher physical activity level. Short sleep duration is associated with male gender and social deprivation. Although, no causal link can be established from this study, the results can help to develop interventions for targeted groups to reduce the adverse effects of poor sleep.

## P070 CAN FAMILIAR SENSORY INPUTS REDUCE THE FIRST NIGHT EFFECT WHEN SLEEPING IN AN UNFAMILIAR HOTEL ROOM?

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Introduction The first night effect (FNE) is the phenomenon of reduced sleep quality during the first night in a new environment. It is hypothesised that this is due to asymmetrical levels of activity in the two hemispheres of the brain to remain more vigilant. We aimed to determine whether the first night's stay in a hotel led to a reduction in sleep quality, and whether this could be mitigated by using one's own pillowcase.
Methods Participants were recruited with ethical approval via a questionnaire including a list of exclusion criteria. Participants then spent one night in the hotel room, followed by four nights at home. During the hotel stay the 'control group' used the hotel pillowcase and the 'intervention group' used their own pillowcase. Sleep quality was selfreported using a visual analogue scale, which was then converted into numerical data. Sleep quality at the hotel was compared to the mean quality at home. Additionally, hotel sleep quality was compared between the control and intervention groups. All data was analysed using a paired twotailed t-test.

