accepted it, 64% removed the prongs over the course of the night.

The aim of the current study was to evaluate a non-contact method to monitor respiration by developing infrared thermal imaging, whereby temperature fluctuations associated with respiration are measured and correlated with airflow.

Methods 11 healthy adult volunteers participated following University Ethics. Respiratory signals were recorded over four simulated apnoea scenarios resembling normal respiration; central; obstructive and hypopnoeic pauses. Simulated apnoeas were measured via nasal pressure cannula and respiratory inductance bands [SOMNOtouchTM RESP; SOMNOmedics, Germany] versus thermal imaging techniques.

Results 70% of the apnoea episodes correlated with airflow sensor readings (Example trace in figure 1). In 16% of recordings the subject's head position did not allow correct identification of the region of interest (i.e. the nostrils). For the remaining 14% of cases there was partial agreement between the thermal measurements and nasal pressure readings.

Discussion These results indicate thermal imaging may be valuable as a detection tool for sleep apnoea, particularly in the case of paediatric patients whose tolerance for contact nasal sensors is poor.

REFERENCE

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P017 | **DIFFERENCES IN GENETIC RISK FOR INSOMNIA, HYPERSOMNIA AND CHRONOTYPE IN BIPOLAR DISORDER SUBTYPES**

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Introduction Insomnia, hypersomnia and evening chronotype are common in bipolar disorder (BD) but research examining the role of genetics is mixed. Stratifying by bipolar subtypes could elucidate this relationship and inform sleep and BD research. Aim: to determine whether genetic liability to insomnia, hypersomnia and chronotype differ between bipolar subtypes (type 1, BD-I or type 2, BD-II).

Method Case-control study of 4672 participants with BD (67% female, 3404 BD-I, 1268 BD-II) enrolled in the Bipolar Disorder Research Network and 5714 controls (49% female) recruited from the 1958 British Birth Cohort and UK Blood Service. All participants were of European ancestry. BD subtypes were determined by semi-structured psychiatric interview and case notes. Genetic liability to sleep traits was assessed using genetic risk scores (GRS), which were derived using alleles from genome-wide association studies of insomnia, sleep duration, daytime sleepiness and chronotype. Analyses used multinomial regression to determine whether GRS for insomnia, hypersomnia (daytime sleepiness or sleep duration) and chronotype were associated with BD-I or BD-II when compared to controls.

Results Insomnia GRS were associated with increased risk of BD-II (RR=1.14, 95% CI=1.07–1.21, P=8.26 × 10–5) but not BD-I (RR=0.98, 95% CI=0.94–1.03, P=0.409) relative to controls. Sleep duration GRS were associated with increased relative risk of BD-I (RR=1.10, 95% CI=1.06–1.15, P=1.13 × 10–5), but not BD-II (RR=0.99, 95% CI=0.93–1.06, P=0.818). Daytime sleepiness and chronotype GRS did not distinguish bipolar subtypes.

Discussion Bipolar subtypes differ in genetic liability to insomnia and sleep duration, providing further evidence that bipolar subtypes should be considered separately in research on sleep in BD. The distinct findings for sleep duration and daytime sleepiness support existing literature suggesting that these are distinct subtypes of hypersomnia.

P018 | **A COMPARISON OF SLEEP PARAMETERS MEASURED BY LIMITED MULTICHANNEL POLYSOMNOGRAPHY AND FULL POLYSOMNOGRAPHY**

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Introduction Inpatient full polysomnography (PSG) is the gold standard diagnostic to identify obstructive sleep apnoea syndrome (OSAS)1. Due to healthcare resources and utilisation many sleep centres employ limited multichannel sleep testing (MC) at the patient's home. Both diagnostic tests provide measurements of oxygen desaturation index (ODI), apnoea-hypopnoea index (AHI) and oxygen saturation (Sp02). The sleep studies however are subject to factors that may influence sleep quality, including environmental effects (location of performance and staff versus patient setup) that may influence overall sleep study scoring.

Methods All patients referred to the CSU for investigation of OSAS who subsequently performed a PSG were included in this observational study. Patients who were symptomatic (Epworth score ≥11) and received a diagnosis of mild OSAS (AHI 5–14/hr) continued to PSG. MC were performed using NOX T3 and PSG using NOX A1 (Nox Medical, Katrínartún, Iceland). Sleep scoring was in accordance with AASM guidelines version 2.3. Comparisons of data sets was performed using SPSS statistical software.

Results Patient demographics are shown in table 1. In total 8 patients were included. All patients scored a higher AHI on PSG compared to MC. Mean PSG AHI and ODI were significantly higher than MC (18.48/hr; 8.1/hr and 17.68/hr; 7.08/hr, p≤0.001 respectively). Sp02 was comparable between PSG and MC (92% and 94%, p=0.0135, respectively). [Figure 1].

Discussion Data from this single centre, small sample study shows higher AHI and ODI from PSG compared to MC in