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Sleep-disordered breathing in pregnancy: a brief summary of current knowledge

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Despite the fact that pregnant women may be predisposed to obstructive sleep apnoea (OSA) caused by the normal physiological changes associated with the gravid state, the impact of sleep-disordered breathing (SDB) on pregnancy remains undetermined. This case–control study reports that hypertensive disorders (chronic hypertension, gestational hypertension, and pre-eclampsia) and frequent snoring are associated with SDB in pregnancy. Although several cross-sectional, case–control, and retrospective cohort studies suggest that SDB may increase the risk of developing hypertensive disorders during pregnancy, there are limited and conflicting data from prospective observational cohorts in which SDB exposure and pregnancy outcomes were meticulously assessed and confounding variables (e.g. body mass index) carefully considered. In one recently published prospective study, objectively assessed SDB (apnoea hypopnoea index, AHI ≥ 5) in pregnancy was associated with a greater risk of pre-eclampsia (aOR 3.5, 95% CI 1.3–9.9; Louis et al. *Obstet Gynecol* 2012;**120:**1085–92). Two subsequent, similarly designed studies failed to confirm this finding (Facco et al. *Am J Obstet Gynecol* 2013; Pien et al. *Thorax* 2014;**69:**371–7).

Complicating this discussion, there is no evidence that treatment of SDB in pregnancy impacts maternal or neonatal outcomes. Even in non- pregnant adults, the evidence of improved clinical outcomes after SDB treatment is limited. Most supporting data focus on intermediate outcomes such as blood pressure changes after 2–24 weeks of treatment, rather than long-term clinical outcomes such as incident hypertension, stroke, or myocardial infraction (Qaseem et al. *Ann Intern Med* 2013;**159:**471–83). To date, studies to examine the effect of continuous positive airway pressure (CPAP) treatment on pregnancy end points have been insufficiently powered or limited in the scope of end points. The largest of these trials followed women already diagnosed with pre-eclampsia who were treated with CPAP, and used improvements in fetal movement and cardiac output as primary clinical end points (Blyton et al. *Sleep* 2004; **27:**79–84; Blyton et al. *Sleep* 2013; **36:**15–21).

At the time of writing, there are not enough data to support a strategy of universal screening and treatment for SDB in pregnancy. Large, prospective cohorts that use objective SDB assessments across pregnancy are needed to accurately define the impact of SDB on maternal and neonatal health. Subsequently, well-designed clinical trials of CPAP use in pregnancy are needed to determine whether treatment of SDB during pregnancy can improve pregnancy outcomes; however, in the meantime we have to recognise that as our obstetrical

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patient population is becoming more obese, we will encounter more women with symptomatic SDB in pregnancy. It is well documented that patients with symptomatic SDB, typically those who snore and report persistent complaints of significant sleep disruption and excessive daytime sleepiness, can benefit from CPAP in terms of sleep quality and daytime function. Therefore, in addition to encouraging women already prescribed CPAP to continue their therapy during pregnancy, obstetricians who suspect a patient may suffer from symptomatic SDB should refer her to a sleep specialist for diagnosis and possible treatment.