

$p < 0.001$ ) and improved ALT (both  $p < 0.001$ ) compared to untrained HFD. Liver lipid staining was only decreased by HIIT (END:  $p = 0.532$ ; HIIT:  $p = 0.011$ ), while improvements to the gene expression of tissue remodeling markers (Col1a1, Tgfb1, Timp2) depended upon the protocol. Although HFD had a negligible effect on EVs, they were increased by 2-fold after END training, independent of diet (HFD:  $p = 0.068$ ; chow:  $p = 0.014$ ). While exercise is effective in reducing NAFLD burden, changes to steatosis or tissue remodeling are affected by the specific protocol. Interestingly, exercise had a stronger effect on EV number than obesity. While the literature implicates vascular events, the mechanisms in our model are currently under investigation.

<https://doi.org/10.1016/j.orcp.2018.11.124>

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### Vertical sleeve gastrectomy and hypertension in diet-induced obese rodents



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Vertical sleeve gastrectomy (VSG) is a bariatric procedure that involves removal of approximately 80% of the stomach along the greater curvature. VSG leads to decreased body weight and adiposity as well as reduced hypertension. We have observed that VSG reduces blood pressure in rats maintained on high-fat diet (HFD), and that this effect is independent of body weight and obesity, by utilizing a pair-feeding paradigm. We examined potential mechanisms contributing to the reduced arterial pressure following VSG by investigating the effect of VSG on proposed mechanisms linking obesity to hypertension, including hyperactivity of the renin-angiotensin system (RAS), hyperinsulinemia, hyperlipidemia and hyperleptinemia. Male rats were fed an AIN93 M HFD containing approximately 45% fat by kilocalories at a density of 4.73 kcal/g for 14 weeks prior to surgery. Rats were then allocated into three weight-matched groups to undergo the dual surgery: a blood pressure telemetry implant and either VSG or Sham surgery. Producing three groups 1) VSG, 2) Sham- ad libitum fed (AL) and 3) Sham-pair fed (PF). Arterial pressure was recorded continuously for 4 months and animals were given a number of pharmacological challenges to determine cardiovascular responsiveness following VSG surgery to acute injection of the beta-agonist isoproterenol, acute injection of the beta-antagonist propranolol and chronic L-NAME treatment. VSG led to significant reductions in arterial pressure relative to both sham-PF and sham-AL groups, all groups were similarly responsive to sympathetic manipulation and nitric oxide synthase inhibition. Plasma levels of triglycerides, non-esterified fatty acids, insulin and leptin were all similarly reduced in VSG and PF animals, relative to the AL group. However, activity of the RAS was lower only in the VSG group, suggesting that suppression of the RAS may be a major contributor to the reduction in hypertension following bariatric surgery.

<https://doi.org/10.1016/j.orcp.2018.11.125>

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### A systematic research review of associations between maternal eating disorders and parent-child feeding interactions



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Evidence suggests both parent-child mealtime interactions and relationship quality play an important role in shaping children's eating and weight-related behaviours [1,2]. Mothers with eating disorders (ED) specifically report finding mealtimes challenging, with research showing a link between parental eating psychopathology and feeding practices implicated in the development of childhood obesity [3]. However, studies have largely focused on parent-level factors only. Therefore the aim of this systematic review was to investigate how maternal EDs influence dyadic parent-child interactions, child weight and eating.

We systematically searched English-language articles published in peer-reviewed journals between January 2008 and January 2018. Studies assessing associations between maternal eating disorders (diagnosis, history or symptomatology) and parent-child feeding interactions of children aged 0–18 years were included in our review.

**Results:** 12 studies met the inclusion criteria; of these 4 were longitudinal. Children included in the studies were aged 0–6 years. Maternal EDs were assessed via self report (11 studies) and interview (1 study). Most studies implemented unidirectional self-report measures of child feeding practices. Of the 4 observational child feeding assessment tools used, 3 captured the quality of dyadic parent-child feeding interactions. Results varied according to ED, but overall findings showed maternal EDs were associated with higher use of restrictive feeding practices and poorer quality of parent-child feeding interactions (i.e., distressing; less sensitive; unattuned; negative emotional climate). Maternal EDs were associated with problematic child eating behaviours (i.e., emotional overeating; binge eating; disordered eating) but not directly with child BMI.

The findings of this review suggest mothers with histories of EDs, or current symptomatology, and their children may experience poorer quality mealtime interactions associated with greater obesity risk. Future research should implement consistent and thorough measures of dyadic relationship quality and child obesity risk outcomes.

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<https://doi.org/10.1016/j.orcp.2018.11.126>