Hebbes CP, Thompson JP. Pharmacokinetics of anaesthetic drugs at extremes of body weight. *BJA Educ*. 2018;18(12):364-370. doi:10.1016/j.bjae.2018.09.001

Supplementary Table 1 - Summary of recommendations for drug dosing in the morbidly obese. For some drugs, particularly local anaesthetics, recommendations differ and both are included here.

Drug	Recommended dosing scaler	Notes	References
Opioids			
Morphine	LBW	Highly lipophilic with a relatively large V_D. The increased sensitivity to opioids risks apnoea when dosed according to TBW. Variability of clinical effect necessitates cautious titration.	Nightingale[1]
Fentanyl	LBW	Rapid initial offset because of redistribution, with increased clearance in the obese. However, increased sensitive to opioids necessitates caution in this group. Variability of clinical effect necessitates cautious titration.	Nightingale[1] Ingrande[2]
Remifentanil	LBW	Studies have demonstrated significantly greater plasma concentrations when dosed by TBW rather than LBW, risking bradycardia. Variability of clinical effect necessitates cautious titration.	Ingrande[2]
Alfentanil	ABW	No data available. Manufacturer suggests LBW.	Nightingale[1]
Anaesthetic induction agents			
Propofol	Initial bolus: LBW Infusion: TBW	Highly lipophilic with rapid redistribution. Initial bolus dosing by TBW results in haemodynamic instability, but dosing by LBW risks awareness. Pragmatically, boluses are dosed by LBW, and infusions by TBW.	Nightingale[1] Ingrande[2]
Thiopental	Initial bolus: LBW Infusion: TBW	Dosed based on the same principles as propofol with risks of awareness after a bolus dose.	Nightingale[1] Ingrande[2]
Etomidate	LBW	No data available; recommendation based on pharmacokinetic similarities to propofol	Ingrande[2]
Neuromuscular blockers and reversal agents			
Succinylcholine	TBW	Relatively increased metabolism of succinyl choline in the obese, reflecting increases in pseudocholinesterase activity. Dosed by TBW overcomes this without any adverse effects.	
Atracurium	LBW	Polar, charged molecules with a small VD, confined to the vascular system and lean tissue; therefore dosed by calculated LBW. Using TBW results in an increased time of offset, and no improvement in onset time for Rocuronium.	Nightingale[1]
Rocuronium	LBW		Nightingale[1]

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Sugammadex	TBW / ABW	Few studies of sugammadex in the obese. Recommend titration to effect. Manufacturer recommends dosing by TBW.	Nightingale[1] CPA[3]
Neostigmine / Glycopyrrolate	TBW / ABW	Recommend titration to effect	Nightingale[1]
Local anaesthetics			
Lidocaine	LBW IBW	Overall maximal dose calculated using standard limits on the basis of Lean Body Weight. Absolute maxima dependent on route of administration. See references for details.	Nightingale[1] Carvalho[4] BNF[5]
Bupivacaine	LBW IBW		Nightingale[1] Carvalho[4] BNF[5]
Prilocaine	IBW		BNF[5]
Ropivacaine	IBW		BNF[5]

TBW – Total Body Weight, LBW – Lean Body Weight, ABW – Adjusted Body Weight, IBW – Ideal Body Weight

Supplementary Table 1 References

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