

Table S1: Postnatal growth in full-term SGA infants related to: a) adiposity; b) insulin resistance; c) blood pressure and d) lipid profiles. Studies are ordered by study design and age at outcome assessment.

a) Adiposity	Timing of exposure (nature)	N SGA	Age at outcome	Summary result	SGA vs. AGA controls	Comments
Randomised controlled trials						
Singhal 2010 ^M (22)	1. B-9mo 2. B-6mo (Nutrient enriched formula)	1. 299 2. 246	1. 6-8y 2. 5-7y	++ (% body fat) 0 (BMI) ++ (Total fat mass)		In both studies, the enriched formula increased WT and HT gains and later fat mass Faster WT and HT growth were associated with later fat mass
Observational studies (n=14)						
Soto 2003 ^M (15)	B-1y (WT, HT gain)	85	1y	++ (BMI)	-- (BMI)	WT gain, but not HT gain, was positively associated with BMI
Iniguez 2004 ^L (28)	B-2y (WT gain)	65	2y	++ (BMI)	-- (BMI)	WT gain was positively associated with BMI
Taal 2013 ^M (36)	B-2y, 2-4y (WT, HT)	191	2y, 4y	++ (BMI at 4y)		WT gain was positively associated with fat mass at 2y and BMI at 4y
Ibañez 2006 ^M (38)	B-2y 2-4y (WT gain)	29	2y, 4y	0 (BMI)		WT gain between 0-2y was not associated with higher BMI (adjusted for height)
Mohn 2007 ^L (35)	B-4y (WT gain)	35	4y	++ (BMI)	0 (BMI)	WT gain was positively associated with BMI
Deng 2011 ^M (33)	B-6y (WT, HT)	67	6y	+ (BMI)	-- (BMI)	Trend to higher BMI in children with catch-up growth.
Uçar 2014 ^L (29)	B-6.5y (WT, HT gain)	31	6.5y	++ (BMI)		WT gain was positively associated with BMI in girls
Miras 2010 ^M (30)	B-6.5y (WT gain)	49	6.5y	++ (BMI)	-- (BMI)	WT gain was positively associated with BMI
Evangelidou 2007 ^M (37)	B-7y (WT gain)	35	7y	0 (BMI)		WT gain was not associated with BMI
Ibañez 2009 ^M (39)	B-7y (WT gain)	56	7y	0 (BMI)		WT gain was not associated with BMI
Torre 2008 ^M (31)	B-8y (WT, HT, BMI)	52	8y	++ (BMI)	0 (BMI)	WT gain was positively associated with BMI
Cianfarani 2003 ^M (16)	B-8.5y (HT gain)	82	8.5y	++ (BMI)		HT gain was positively associated with BMI
Kramer 2014 ^M (34)	B-6mo 6mo-6.5y 6.5y-11.5y (WT gain)	1247	6mo, 6.5y, 11.5y	+ (BMI)	-- (BMI)	WT gain was not significantly associated with adiposity (adjusted for parental height)
Ezzahir 2005 ^M (32)	B-1y B-2y B-6y (BMI gain)	127	21y	++ (BMI)	+ (BMI)	BMI gain, especially after the first year of life, was positively associated with adiposity

Observational studies (n=5) - % Body fat						
Beltrand 2009 ^L (40)	B-4mo 4mo-1y (WT gain)	94	4mo, 1y	0 (% body fat)		WT gain was not associated with % body fat
Ibañez 2006 ^M (38)	B-2y 2-4y (WT gain)	29	2y, 4y	++ (% body fat)	++ (% body fat)	WT gain between 0-2y was positively associated with adiposity and fat gains between 2-4y (adjusted for height)
Mohn 2007 ^L (35)	B-4y (WT gain)	35	4y	++ (% body fat)	0 (% body fat)	WT gain was positively associated with BMI and % fat mass
Kramer 2014 ^M (34)	B-6mo 6mo-6.5y 6.5y-11.5y (WT gain)	1247	6mo, 6.5y, 11.5y	+ (% body fat)	-- (% body fat)	WT gain was not significantly associated with adiposity (adjusted for parental heights)
Leunissen 2008 ^H (41)	B-21.5y (WT gain)	71	21.5y	0 (% body fat)		WT gain was not significantly associated with adiposity (adjusted for height)
Observational studies (n=6) - Fat or lean mass						
Amador-Licona 2007 ^L (43)	B-1y (WT gain)	44	1y	++ (Abdo. fat)		WT gain was positively associated with abdominal fat
Taal 2013 ^M (36)	B-2y, 2-4y (WT, HT)	191	2y, 4y	++ (Total fat mass at 2y)		WT gain was positively associated with fat mass at 2y and BMI at 4y
Ibañez 2006 ^M (38)	B-2y 2-4y (WT gain)	29	2y, 4y	++ (Abdo. fat) -- (Lean mass)	++ (Abdo. fat) -- (Lean mass)	WT gain between 0-2y was positively associated with adiposity and fat gains between 2-4y (adjusted for height)
Ibañez 2009 ^M (39)	B-7y (WT gain)	56	7y	++ (Total fat & Lean mass)		WT gain was positively associated with fat and lean mass, and also subcutaneous and visceral fat
Bavdekar 1999 ^M (44)	B-8y (WT gain)	165	8y	++ (SS/TR)	++ (SS/TR)	WT gain was positively associated with fat mass
Leunissen 2012 ^M (42)	B-21y (WT gain)	106	21y	0 (Total fat mass) ++ (Total lean mass)		WT gain was positively associated with lean mass, but not fat mass

b) Insulin resistance	Timing of exposure (nature)	N SGA	Age at outcome	Summary result	SGA vs. AGA controls	Comment
Observational studies (n=18)						
Amador-Licona 2007 ^L (43)	B-1y (WT gain)	44	1y	0 (HOMA-IR)		WT gain was not associated with IR
Beltrand 2009 ^L (40)	B-4mo 4mo-1y (WT gain)	94	1y	0 (Fasting insulin)		WT gain was not associated with IR
Soto 2003 ^M (15)	B-1y (WT, HT gain)	85	1y	++ (Fasting insulin)	++ (Fasting insulin)	Catch up growth was associated with higher IR (adjusted for BMI)
Mericq 2005 ^M (47)	B-3y (WT gain)	55	3y	++ (HOMA-IR)	++ (HOMA-IR)	WT gain was positively associated with IR
Ibañez 2006 ^M (38)	B-2y 2-4y (WT gain)	29	2y, 3y, 4y	++ (HOMA-IR @4y)	-- (HOMA-IR @2y) ++ (HOMA-IR @4y)	WT gain between 0-2y was positively associated with change in IR between 2-4y
Mohn 2007 ^L (35)	B-4y (WT gain)	35	4y	++ (HOMA-IR)	++ (HOMA-IR)	WT gain was positively associated with IR
Deng 2012 ^M (45)	B-6y (HT, BMI gain)	111	6y	++ (HOMA-IR)	++ (HOMA-IR)	HT & BMI gains were positively associated with IR (adjusted for BMI)
Deng 2011 ^M (33)	B-6y (HT gain)	67	6y	++ (HOMA-IR)	++ (HOMA-IR)	HT gain was positively associated with IR (adjusted for BMI) .
Miras 2010 ^M (30)	B-6.5y (WT gain)	49	6.5y	0 (HOMA-IR)	0 (HOMA-IR)	No differences between groups (adjusted for BMI)
Uçar 2014 ^L (29)	B-6.5y (WT gain)	31	6.5y	++ (OGTT)	++ (OGTT)	SGA girls with premature adrenarche had higher IR than AGA (adjusted for BMI)
Evagelidou 2007 ^M (37)	B-7y (WT gain)	35	7y	0 (HOMA-IR)		WT gain was not associated with IR
Ibañez 2009 ^M (39)	B-7y (WT gain)	56	7y	++ (HOMA-IR)		WT gain was positively associated with IR
Bavdekar 1999 ^M (44)	B-8y (WT gain)	165	8y	++ (HOMA-IR)	0 (HOMA-IR)	WT gain was positively associated with IR
Torre 2008 ^M (31)	B-8y (WT, HT, BMI gain)	52	8y	0 (HOMA-IR)	0 (HOMA-IR)	Catch up growth was not associated with IR, if BMI was normal
Cianfarani 2003 ^M (17)	B-8.5y (HT gain)	82	8.5y	0 (HOMA-IR)		No differences between groups (adjusted for BMI)
Veening 2003 ^M (16)	B-1y B-2y 2-9y (BMI gain)	28	1y, 2y, 9y	0 (0-2y, Clamp) ++ (2-9y, Clamp)	++ (Clamp)	BMI gain between 2-9y was positively associated with IR
Fabricius-Bjerre 2011 ^M (46)	B-3mo B-1y (WT gain)	30	17.6y	++ (HOMA-IR)	++ (HOMA-IR)	WT gain was positively associated with IR (adjusted for BMI)

Leunissen 2008 ^H (41)	B-21.5y (WT gain)	71	21.5y	+ (IVGTT)	++ (IVGTT)	Catch up growth was associated with higher IR (adjusted for height and fat mass)
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c) Blood pressure	Timing of exposure (nature)	N SGA	Age at outcome	Summary result	SGA vs. AGA controls	Comment
Randomised controlled trials						
Singhal 2007 ^H (21)	4d-9mo (Nutrient enriched formula)	153	6-8y	++ (BP)		Enriched formula increased the risk of high BP at 6-8 y WT gain B-9mo was positively associated with systolic BP
Observational studies (4 studies)						
Hemachandra 2007 ^M (48)	B-4mo 4mo-1y 1-4y 4-7y (WT gain)	2802	7y	++ (BP)	0 (BP)	WT gain during any period was positively associated with high systolic BP
Bavdekar 1999 ^M (44)	B-8y (WT gain)	165	8y	++ (BP)	+ (BP)	WT gain was associated with higher BP, TG and TChol
Horta 2003 ^M (49)	B-20mo, B-42mo (WT gain)	38	15y	++ (BP)	0 (BP)	WT gain was associated with higher systolic BP
Leunissen 2012 ^M (42)	B-21y (WT gain)	106	21y	0 (BP)	0 (BP)	WT gain was not associated with BP

d) Lipids

Observational studies – (7 studies)

Soto 2003 ^M (15)	B-1y (WT, HT gain)	85	1y	0 (TChol, TG)	+ (TG)	No association with blood lipids between SGA groups
Deng 2012 ^M (45)	B-6y (WT gain)	111	6y	0 (TG)	0 (TG)	No association with TG levels (adjusted for BMI)
Evagelidou 2007 ^M (37)	B-7y (WT gain)	35	7y	0 (TChol, TG)	0 (TChol, TG)	No association with blood lipids
Bavdekar 1999 ^M (44)	B-8y (WT gain)	165	8y	++ (TChol, TG)	+ (TChol, LDL)	WT gain was associated with higher BP, TG and TChol
Torre 2008 ^M (31)	B-8y (BMI, HT gain)	52	8y	0 (TChol, LDL & TG) -- (HDL, HT gain)	0 (LDL, HDL, TG)	HT gain was inversely associated with HDL cholesterol
Cianfarani 2003 ^M (17)	B-8.5y (HT)	82	8.5y	-- (TChol & LDL) 0 (TG & HDL)	-- (TChol, HDL)	HT gain was inversely associated with TChol & LDL
Tenhola 2000 ^M (50)	B-5y (HT gain)	55	12 y	-- (TChol)	++ (TChol)	SGA with poor HT gain had higher TChol

B, birth; BMI, body mass index; WT, weight; HT, height or length; IR, insulin resistance; SGA, small-for-gestational age; AGA, appropriate-for-gestational age; OGTT, oral glucose tolerance test; IVGTT, intravenous glucose tolerance test; BP; blood pressure; TG, triglycerides; TChol, total cholesterol; CIMT, carotid-intimal thickness; y, years; mo, months. (++) statistically significant positive association; (+) non-significant positive trend; (0) no association; (-) non-significant inverse trend; and (--) significant inverse association.

