Appendix B – Master Data Table of Effects of Chromium Supplementation on Body Mass or Composition

Author	Date	Jadad 3-item Score	Subjects (*n*) [a]	Dosage (μg Cr · d^{-1})	Chromium Supplement	Duration (weeks)	Training Protocol (frequency)	Compliance Monitored [b]	Measurement Technique [c]	Chromium Effects [d]
Evans (study one)	1989	1/5	10 Males	200	CrPic	5.7	Resistance (2 d · wk^{-1})	No	3-site Skinfold, 2-site Circumference	Increase in Lean Body Mass
Evans (study two)	1989	3/5	31 Males Football Players	200	CrPic	6	Resistance (4 d · wk^{-1})	No	3-site Skinfold 3-site Circumference	Increase in Lean Body Mass, Loss of Body Fat
Hasten et al.	1992	2/5	37 Males 22 Females	200	CrPic	12	Resistance (3 d · wk^{-1})	Yes	3-site Skinfold, 3-site Circumference	Females increased Body Weight
Clancy et al.	1994	4/5	21 Football Players	200	CrPic	9	Resistance & Running (4 d & 2 d · wk^{-1})	Yes	7-site Skinfold, 20-site Circumference	No Effects
Trent et al.	1995	3/5	79 Males 16 Females Obese	400	CrPic	16	Aerobic Exercise (3 hrs · wk^{-1}) Anaerobic (1.5 hrs · wk^{-1})	Yes	2-site(M); 3-site(F) Circumference	No Effects
Hallmark et al.	1996	3/5	16 Males	200	CrPic	12	Resistance (3 d · wk^{-1})	Yes	Hydrodensitometry, 6-site Skinfold, 5-site Circumference	No Effects
Kaats et al.	1996	3/5	154	200 & 400	CrPic	10.3	None	Yes	Water Displacement	Decrease in Body Weight, Percentage Body Fat and Fat Weight
Lukaski et al.	1996	2/5	36 Males	171 & 182	CrChl & CrPic	8	Resistance (5 d · wk^{-1})	Yes	Dual X-ray Absorptiometry, 4-site Skinfold	No Effects
Grant et al.	1997	1/5	43 Females Obese	400	CrNic & CrPic	9	Resistance, Cycling & Aerobic (2 d · wk^{-1})	Yes	Hydrostatic Weighing	Increase in Body Weight in none exercising CrPic subjects, Decrease in Body Weight in exercising CrNic subjects
Kaats et al.	1998	5/5	17 Males 105 Females	400	CrPic	12.9	No (pedometer to assess EE)	Yes	Dual X-ray Absorptiometry	Decrease in Fat Mass, Decrease in Body Weight, Percentage Body Fat and Fat Mass when adjusted for differences in EI & EE

Appendix B – Master Data Table of Effects of Chromium Supplementation on Body Mass or Composition (continued)

Walker et al.	1998	5/5	20 Males Wrestlers	200	CrPic	14	Resistance ($3\ d \cdot wk^{-1}$)	Yes	Hydrostatic Weighing, 9-site Skinfold, 10-site Circumference	No Effect
Campbell et al.	1999	4/5	18 Males (56-69 yrs)	924	CrPic	12	Resistance ($2\ d \cdot wk^{-1}$)	Yes	Hydrostatic Weighing, 8-site Skinfold, 2-site Circumference	No Effect
Crawford et al.	1999	4/5	18 Females Overweight	600	Niacin-Bound Chromium	2 Months	Exercise ($3\ d \cdot wk^{-1}$)	No	Bioelectrical Impedance	Decrease in Fat Mass, Sparing of Lean Body Mass
Amato et al.	2000	5/5	9 Males 10 Females	1000	CrPic	8	Exercise (activity recorded)	Yes	Dual X-ray Absorptiometry	No Effect
Livolsi et al.	2001	4/5	15 Females Softball Players	500	CrPic	6	Resistance ($3\ d \cdot wk^{-1}$)	Yes	Hydrostatic Weighing	No Effect
Volpe et al.	2001	4/5	44 Females Obese	400	CrPic	12	Resistance & Walking ($2\ d \cdot wk^{-1}$)	Yes	Hydrostatic Weighing, 2-site Circumference	No Effect
Campbell et al.	2002	3/5	17 Females Obese (54-71 yrs)	924	CrPic	12	Resistance ($2\ d \cdot wk^{-1}$)	Yes	Hydrostatic Weighing, 8-site Skinfold	No Effect
Diaz et al.	2007	4/5	35 Females Overweight	447	CrPic	12	Aerobic ($5\ d \cdot wk^{-1}$)	Yes	Dual X-ray Absorptiometry	No Effect
Lukaski et al.	2007	4/5	83 Females	200	CrPic	12	None	Yes	Dual X-ray Absorptiometry, 4-site Skinfold	No Effect

[a] Subjects (numbers of males/females, and author specified classification)

[b] This refers to compliance to exercise protocol, which could be achieved through supervision of training or activity logs and compliance with regards to chromium supplementation, which could be achieved via capsule count, interviews or questionnaires.

[c] Refers to the measurement technique to assess body composition (skinfold thickness, circumference measures, hydrostatic weighing or dual x-ray absorptiometry).

[d] These are significant ($p < 0.05$) changes in body mass or composition compared to baseline and placebo trials.

Key
Cr = Chromium; **CrPic** = Chromium Picolinate; **CrNic** = Chromium Nicotinate; **CrChl** = Chromium Chloride

Appendix B – Master Data Table of Effects of Chromium Supplementation on Physical Performance

Author	Date	Jadad 3-item Score	Subjects (*n*) [a]	Dosage (μg Cr · d^{-1})	Cr. Supplement	Duration (weeks)	Training Protocol (frequency)	Measurement Technique [b]	Chromium Effects [c]
Hasten et al.	1992	2/5	37 Males 22 Females	200	CrPic	12	Resistance (3 d · wk^{-1})	1RM	No Effect
Clancy et al.	1994	4/5	21Males	200	CrPic	9	Resistance & Running (4 d & 2 d · wk^{-1})	Biodex - 1RM	No Effect
Hallmark et al.	1996	3/5	16 Males	200	CrPic	12	Resistance (3 d · wk^{-1})	Keiser - 1RM	No Effect
Walker et al.	1998	5/5	20 Males	200	CrPic	14	Resistance (3 d · wk^{-1})	Cybex - 1RM, Bruce Protocol - $VO_{2max,}$ Windgate - AnP	No Effects
Campbell et al.	1999	4/5	18 Males	924	CrPic	12	Resistance (2 d · wk^{-1})	Keiser - 1RM	Placebo group gained more left & right knee-extension strength
Davis et al.	2000	2/5	8 Males (repeated measures)	400 (1hr prior to exercise)	CrPic	n/a[d]	n/a[d]	Shuttle Running	No Effects
Livolsi et al.	2001	4/5	15 Females Softball Players	500	CrPic	6	Resistance (3 d · wk^{-1})	Cybex - 1RM	No Effects
Campbell et al.	2002	3/5	17 Females	924	CrPic	12	Resistance (2 d · wk^{-1})	Keiser - 1RM	No Effects

Appendix B – Master Data Table of Effects of Chromium Supplementation on Physical Performance (continued)

[a] Subjects (number of males/females, and author specified classification)

[b] Measurement technique (Brand of exercise equipment used or exercise protocol used, e.g. Bruce protocol, Windgate test and Shuttle running.

[c] These are significant ($p < 0.05$) changes in physical performance reported in the study determined to be directly associated with chromium supplementation.

[d] Duration shown in weeks, with the exception of Davis et al. (2000) where an alternative study design was used, assessing short-term effects of acute chromium consumption 60 minutes prior to exercise.

Key

Cr = Chromium; **CrPic** = Chromium Picolinate

1RM - The maximum amount of weight which can be lifted in one-repetition.

VO_{2max} – maximal aerobic capacity. AnP – peak anaerobic capacity