BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES**.

NAME	POSITION TITLE
David B. Herzog, M.D.	Psychiatrist and Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Rutgers University, New Brunswick, NJ	B.A.	1966	Biological Science
National Autonomous University School of Medicine, Mexico City, Mexico	M.D.	1973	Medicine

A. Professional Experience:

1973-1975	Intern and Resident in Pediatrics, University of Wisconsin Hospitals, Madison, WI
1975-1976	Senior Resident in Pediatrics, Boston City Hospital, Boston, MA
1976-1978	Resident in Child Psychiatry, Children's Hospital Medical Center and Judge Baker Guidance
	Center, Boston, MA
1978-1980	Resident in Adult Psychiatry, Massachusetts General Hospital, Boston, MA
1981-	Director, Eating Disorders Unit, Child Psychiatry Service, Massachusetts General Hospital
1984-	Editorial Board, International Journal of Eating Disorders
1985-1987	Member, APA DSM III-R Work Group on Eating Disorders
1987-	Editorial Board, Journal of Clinical Psychiatry
1991-	Psychiatrist, Massachusetts General Hospital, Boston, MA
1992-	Pediatrician, Massachusetts General Hospital, Boston, MA
1992-	Member, Society for Pediatric Research
1992-	Editorial Board, <u>Harvard Review of Psychiatry</u>
1994-2000	Editorial Board, Journal of the American Academy of Child and Adolescent Psychiatry
1995-	Member, NIMH Science Advisory Committee on Eating Disorders
1997-	Professor of Psychiatry (Pediatrics), Harvard Medical School
1997-	Member, Steering Committee on Eating Disorders, Practice Guidelines for Eating Disorders, APA
1998-	President and Founder, Harvard Eating Disorders Center
2000-	President and Founder, Eating Disorder Coalition for Research Policy and Action
2001	Symposium Speaker, NIMH Conference on the Prevention of Eating Disorders
2002	Symposium Speaker, NIMH Conference on the Treatment of Eating Disorders
2005	Symposium Speaker, NIMH Conference on Early Recognition of Eating Disorders in Children
2005	and Adolescents
2005-	Director, Harris Center for Education and Advocacy in Eating Disorders at MGH

Awards and Honors:

- 1992 Blanche F. Ittleson Award, APA
- 1994 Joseph B. Goldberger Award, AMA
- 1997 Simon Wile Award, AACAP
- 1999 AACAP Eating Disorder Scientific Achievement Award
- 2005 Meehan/Hartley Leadership Award for Public Service and/or Advocacy

<u>B. Publications:</u> (Dr. Herzog has authored or co-authored over 200 papers and chapters—the following are a representative sample)

Principal Investigator/Program Director (Last, First, Middle): Herzog, David B.

- 1. Norman DK, Herzog DB. Persistent social maladjustment in bulimia. Am J Psychiatry. 1984; 141: 444-446.
- 2. Herzog DB. Are anorectics and bulimics depressed? Am J Psychiatry. 1984; 141: 1594-1597.
- 3. Rigotti NA, Nussbaum SR, Herzog DB et al. Osteoporosis in women with anorexia nervosa. NEJM. 1984; 311: 1601-1606.
- 4. Herzog DB, Copeland PM. Eating Disorders. NEJM. 1985; 313: 295-303.
- 5. Norman DK, Herzog DB. A three-year outcome study of normal-weight bulimia: Assessment of psychosocial functioning and eating attitudes. Psychiatry Res. 1986; 19: 199-205.
- 6. Herzog DB, Keller MB, Lavori PW et al. Short term prospective study of recovery in bulimia. Psychiatry Res. 1988; 23: 45-55.
- 7. Herzog DB, Keller MB, Lavori PW. Outcome in anorexia nervosa and bulimia nervosa: A review of the literature. J Nerv Ment Dis. 1988; 176: 131-143.
- 8. Herzog DB, Copeland PM. Bulimia nervosa psyche and satiety. NEJM. 1988; 319: 716-719.
- 9. Keller MB, Lavoir PW, Herzog DB et al. High rates of chronicity and rapidity of relapse in patients with bulimia nervosa and depression. Arch Gen Psychiatry. 1989; 46: 480-481.
- 10. Fava M, Copeland P, Schweiger U, Herzog DB et al. Neurochemical abnormalities of anorexia nervosa and bulimia nervosa. Am J Psychiatry. 1989; 146: 963-971.
- 11. Rigotti NA, Neer RM, Skates SJ, Herzog DB et al. The clinical course of osteoporosis in anorexia nervosa. JAMA. 1991; 265: 1133-1138.
- 12. Herzog DB, Keller MB, Lavoir PW et al. The prevalence of personality disorders in 210 women with eating disorders. J Clin Psychiatry. 1992; 53: 147-152.
- 13. Keller MB, Herzog DB, Lavori PW et al. The naturalistic history of bulimia nervosa: Extraordinarily high rates of chronicity, relapse, recurrence, and psychosocial morbidity. Intl J Eat Dis. 1992; 12(1): 1-9.
- 14. Herzog DB, Keller MB, Strober M et al. Current status of treatment in anorexia nervosa and bulimia nervosa. Intl J Eat Dis. 1992; 12(2): 215-220.
- 15. Herzog DB, Keller MB, Yeh C et al. Psychiatric comorbidity in treatment seeking anorexics and bulimics. JAACAP. 1992; 31(5): 810-818.
- 16. Herzog DB, Keller MB, Sacks NR et al. Patterns and predictors of recovery in anorexic and bulimic women. JAACAP. 1993; 32(5): 835-842.
- 17. Herzog DB, Sacks NR. Bulimia nervosa: Comparison of treatment responders vs. non-responders. Psychopharm Bulletin. 1993; 29(1): 121-125.
- 18. Herzog DB, Field AE, Keller MB et al. Subtyping eating disorders: Is it justified? JAACAP. 1996; 35:928-936.
- 19. Grinspoon S, Baum H, Lee K, Anderson E, Herzog D, Klibanski A. Effects of short-term recombinant human insulin-like growth factor I administration on bone turnover in osteopenic women with anorexia nervosa. J Clinical Endocrinol Metab. 1996; 81: 3864-3870.
- 20. Carlat DJ, Camargo CA, Herzog DB. Eating disorders in males: A report on 135 patients. Am J Psychiatry. 1997; 154: 1127-1132.
- 21. Grinspoon S, Thomas E, Pitts S, Gross E, Mickley D, Miller K, Herzog D, Klibanski A. Prevalence and predictive factors for regional osteopenia in women with anorexia nervosa. Annals of Internal Medicine. 2000 133:790-4.
- 22. Herzog DB, Delinsky SS. Classification of eating disorders. In: Striegel-Moore RH, Smolak L, eds. Eating Disorders. Washington DC: APA. 2001; 31-50.
- Franko DL, Blais MA, Becker AE, Selwyn S, Greenwood DN, Flores AT, Ekeblad ER, Eddy KT, Herzog DB. Pregnancy complications and neonatal outcome in eating disordered women. Am J Psychiatry. 2001; 158: 1461-1466.
- 24. Eddy KT, Keel PK, Dorer DJ, Delinsky SS, Franko DL, Herzog DB. A longitudinal comparison of anorexia nervosa subtypes. Intl J Eat Dis. 2002: 31:191-201.
- 25. Grinspoon S, Thomas L, Miller K, Pitts S, Herzog D, Klibanski A. Regional fat redistribution and the effects of estrogen during spontaneous weight gain in women with anorexia nervosa. Am J Clin Nutr. 2001; 73:865-9.

- 26. Keel PK, Dorer DJ, Eddy KT, Selwyn SE, Franko DL, Blais MA, Keller MB, Herzog DB. Predictors of treatment utilization in women with anorexia and bulimia nervosa. Arch Gen Psych. 2003; 60(2):179-83.
- 27. Grinspoon S, Thomas L, Miller K, Herzog D, Klibanski A. Effects of rhIGF-I and estrogen administration on bone density in anorexia nervosa. J Clin Endocrinol Metab. 2002; 87(2): 2883-2891.
- 28. Becker AE, Burwell RA, Gilman SE, Herzog DB, Hamburg P. Eating behaviours and attitudes following prolonged exposure to television among ethnic Fijian adolescent girls. British Journal of Psychiatry. 2002; 180:509-14.
- 29. Steiner-Adair C, Sjostrom L, Franko DL, Pai S, Tucker R., Becker AE, Herzog DB. Primary prevention of risk factors for eating disorders in adolescent girls: Learning from practice. Intl J Eat Dis. 2002; 32: 401-411.
- 30. Keel PK, Dorer DJ, Eddy KT, Franko D, Charatan D, Herzog DB. Predictors of Mortality in Eating Disorders. Arch Gen Psychiatry 2003; 60(2): 179-83.
- 31. Becker AE, Franko DL, Speck A, Herzog DB. Ethnicity and differential access to care for eating disorder symptoms. Intl J Eat Dis. 2003; 33: 205-212.
- 32. Grinspoon S, Miller K, Herzog D, Clemmons D, Klibanski A. Effects of rhIGF-I and Estrogen Administration on IGF-I, IGFBP-2, and IGFBP-3 in Anorexia Nervosa: A Randomized-Controlled Study. J Clin Endocrinol Metab 2003; 88(3): 1142-1149.
- 33. Misra M, Soyka LA, Miller KK, Herzog DB, Grinspoon S, De Chen D, Neubauer G, Klibanski A. Serum osteoprotegerin in adolescent girls with anorexia nervosa. J Clin Endocrinol Metab. 2003;88(8):3816-22.
- 34. Misra M, Miller KK, Bjornson J, Hackman A, Aggarwal A, Chung J, Ott M, Herzog DB, Johnson ML, Klibanski A. Alterations in growth hormone secretory dynamics in adolescent girls with anorexia nervosa and effects on bone metabolism. J Clin Endocrinol Metab. 2003;88(12):5615-23.
- 35. Misra M, Miller KK, Herzog DB, Ramaswamy K, Aggarwal A, Almazan C, Neubauer G, Breu J, Klibanski A. Growth hormone and ghrelin responses to an oral glucose load in adolescent girls with anorexia nervosa and controls. J Clin Endocrinol Metab. 2004;89(4):1605-12.
- 36. Agras WS, Brandt HA, Bulik CM, Dolan-Sewell R, Fairburn CG, Halmi KA, Herzog DB, Jimerson DC, Kaplan AS, Kaye WH, le Grange D, Lock J, Mitchell JE, Rudorfer MV, Street LL, Striegel-Moore R, Vitousek KM, Walsh BT, Wilfley DE. Report of the National Institutes of Health workshop on overcoming barriers to treatment research in anorexia nervosa. Int J Eat Disord. 2004;35(4):509-21.
- 37. Misra M, Miller KK, Almazan C, Ramaswamy K, Aggarwal A, Herzog DB, Neubauer G, Breu J, Klibanski A. Hormonal and body composition predictors of soluble leptin receptor, leptin, and free leptin index in adolescent girls with anorexia nervosa and controls and relation to insulin sensitivity. J Clin Endocrinol Metab. 2004;89(7):3486-95.
- Grinspoon S, Miller KK, Herzog DB, Grieco KA, Klibanski A. Effects of estrogen and recombinant human insulin-like growth factor-I on ghrelin secretion in severe undernutrition. J Clin Endocrinol Metab. 2004;89(8):3988-93.
- 39. Miller KK, Grieco KA, Mulder J, Grinspoon S, Mickley D, Yehezkel R, Herzog DB, Klibanski A. Effects of risedronate on bone density in anorexia nervosa. J Clin Endocrinol Metab. 2004;89(8):3903-6.
- 40. Miller KK, Deckersbach T, Rauch SL, Fischman AJ, Grieco KA, Herzog DB, Klibanski A. Testosterone administration attenuates regional brain hypometabolism in women with anorexia nervosa. Psychiatry Res. 2004;132(3):197-207.
- 41. Miller KK, Grinspoon SK, Ciampa J, Hier J, Herzog DB, Klibanski A. Medical Findings in Outpatients With Anorexia Nervosa. Arch Intern Med. 2005; 165:561-566.
- 42. Misra M, Miller KK, Almazan C, Worley M, Herzog DB, Klibanski A. (in press). Hormonal determinants of regional body composition in adolescent girls with anorexia nervosa and controls. J Clin Endocrinol Metab.
- 43. Becker AE, Thomas JJ, Franko DL, Herzog DB. Interpretation and use of weight information in the evaluation of eating disorders: counselor response to weight information in a National Eating Disorders Educational and Screening Program. Int J Eat Disord. 2005;37(1):38-43.
- 44. Cogan JC, Franko DL, Herzog DB. Federal advocacy for anorexia nervosa: An American model. Int J Eat Disord. 2005;37 Suppl 1:S101-2.

- 45. Misra M, Miller KK, Kuo K, Griffin K, Stewart V, Hunter E, Herzog DB, Klibanski A. Secretory Dynamics of Ghrelin in Adolescent Girls with Anorexia Nervosa and Healthy Adolescents. Am J Physiol Endocrinol Metab. 2005 Aug;289(2):E347-56.
- 46. Misra M, Miller KK, Kuo K, Griffin K, Stewart V, Hunter E, Herzog DB, Klibanski A. Secretory Dynamics of Leptin in Adolescent Girls with Anorexia Nervosa and Healthy Adolescents. Am J Physiol Endocrinol Metab. 2005 Sep;289(3):E373-81.
- 47. Misra M, Miller KK, Almazan C, Worley M, Herzog DB, Klibanski A. Hormonal determinants of regional body composition in adolescent girls with anorexia nervosa and controls. J Clin Endocrinol Metab. 2005;90(5):2580-7.
- 48. Franko DL, Dorer DJ, Keel PK, Jackson S, Manzo MP, Herzog DB. How do eating disorders and alcohol use disorder influence each other? Int J Eat Disord. 2005;38(3): 200-207.
- 49. Miller KK, Grinspoon SK, Ciampa J, Hier J, Herzog D, Klibanski A. Medical findings in outpatients with anorexia nervosa. Arch Intern Med. 2005 Mar 14;165(5):561-6.
- 50. Marx, RD [Ed], Cogan, JC, Herzog, DB. Questions & Answers: Why Is It Important to Address Eating Disorders Through Federal Advocacy? Eating Disorders: The Journal of Treatment & Prevention. Vol 13(3) May-Jun 2005, 307-312.
- 51. Misra M, Miller KK, Kuo K, Griffin K, Stewart V, Hunter E, Herzog DB, Klibanski A. Secretory dynamics of leptin in adolescent girls with anorexia nervosa and healthy adolescents. Am J Physiol Endocrinol Metab. 2005 Sep;289(3):E373-81.
- 52. Becker, AE, Thomas, JJ, Franko, DL, Herzog, DB. Disclosure Patterns of Eating and Weight Concerns to Clinicians, Educational Professionals, Family, and Peers. Int J Eat Disord. 2005;38(1): 18-23.
- 53. Misra M, Miller KK, Stewart V, Hunter E, Kuo K, Herzog DB, Klibanski A. Ghrelin and bone metabolism in adolescent girls with anorexia nervosa and healthy adolescents. J Clin Endocrinol Metab. 2005 Sep;90(9):5082-7.
- 54. Misra M, Miller KK, Tsai P, Gallagher K, Lin A, Lee N, Herzog DB, Klibanski A. Elevated Peptide YY Levels in Adolescent Girls with Anorexia Nervosa. J Clin Endocrinol Metab. 2005 Nov 8.
- 55. Keel PK, Dorer DJ, Franko DL, Jackson SC, Herzog DB. Postremission predictors of relapse in women with eating disorders. Am J Psychiatry. 2005 Dec;162(12):2263-8.
- 56. Misra M, Miller KK, Tsai P, Gallagher K, Lin A, Lee N, Herzog DB, Klibanski A. Elevated peptide YY levels in adolescent girls with anorexia nervosa. J Clin Endocrinol Metab. 2006;91:1027-1033
- Deckersbach, T, Miller, KK, Klibanski, A, Fischman, A, Dougherty, DD, Blais, MA, Herzog, DB, Rauch, SL. Regional cerebral brain metabolism correlates of neuroticism and extraversion. Depress Anxiety. 2006;23(3):133-8.
- 58. Frisch, MJ, Herzog, DB, Franko DL. Residential treatment for eating disorders. Int J Eat Disord. 2006;39(5): 434-442.
- 59. Misra, M, Prabhakaran, R, Miller, KK, Tsai, P, Lin, A, Lee, L, Herzog, DB, Klibanski, A. Role of cortisol in menstrual recovery in adolescent girls with anorexia nervosa. Pediatric Res. 2006;59(4): 598-603.
- 60. Herzog, DB, Franko, DL, Dorer, DJ, Keel, PK, Jackson, S, Manzo, MP. Drug abuse in women with eating disorders. Int J Eat Disord. 2006;39(3): 364-368.
- 61. Sherman, BJ, Savage, CR, Eddy, KT, Blais, MA, Deckersbach, T, Jackson, SC, Franko, DL, Rauch, SL, Herzog, DB. Strategic memory in adults with anorexia nervosa: Are there similarities to obsessive compulsive spectrum disorders? Int J Eat Disord. 2006 May 19; Epub
- 62. Frisch, MJ, Franko, DL, Herzog, DB. Arts-based therapies in the treatment of eating disorders. Eat Disord. 2006 Mar-Apr;14(2):131-42.
- Miller, KK, Lee, EE, Lawson, EA, Misra, M, Mihihan, J, Grinspoon, SK, Gleysteen, S, Mickley, D, Herzog, DB, Klibanski, A. Determinants of Skeletal Loss and Recovery in Anorexia Nervosa. J Clin Endocrinol Metab. 2006 May 30; Epub
- 64. Misra, MM, Miller, KK, Tsai, P, Stewart, V, End, A, Freed, N, Herzog, DB, Goldsteinm Mm Riggs, S, Klibanski, A. Uncoupling of Cardiovascular Risk Markers in Adolescent Girls with Anorexia Nervosa. J Pediatr 2006;149:763-9.
- 65. Franko, DL, Becker, AE, Thomas, JJ, Herzog, DB. Cross-ethnic differences in eating disorder symptoms and related distress. Int J Eat Disord. 2006 Nov 1; [Epub ahead of print]

C. Research Support

Active Research Support:

1 R01 DK062249-01A1 (Klibanski)Period: 7/01/03-3/31/08

"Effects of Anorexia on Peak Bone Mass"

Agency: NIH/DK

The major goals of this project are to determine the effects of estrogen replacement on peak bone mass and growth hormone physiology in adolescent girls.

5 RO1 DK52625-8 (Klibanski) Period: 5/19/97-8/31/08

"IGF1 and Bone Loss in Women with Anorexia Nervosa"

Agency: NIH/NIMH

The major goals of this project are to investigate the time course of effects on bone turnover and whether rhIGF-I administration has prolonged effects on bone formation. We will also determine whether chronic administration of rhIGF-I increases bone mass and whether the interaction of IGF-I and gonadal steroids both increases formation and decreases resorption.

Completed Research Support

R03 DA015414-01A1 (Herzog) Period: 4/01/03-3/31/05

"Substance Abuse in Women with Anorexia and Bulimia Nervosa"

Agency: NIH/NIDA

The major goals of this study are to describe the influences of substance abuse disorders in women with eating disorders. We will examine the differences between eating disordered women with and without substance abuse disorder in terms of symptomatology, recovery, relapse, comorbid psychopathology, suicidality, treatment participation and psychosocial functioning.

R03 AA 013614 (Herzog) Period: 4/01/03-3/31/05 "Alcoholism in Women with Anorexia and Bulimia Nervosa"

Agency: NIH/NIAAA

The major goals of this study are to describe the development of alcoholism in women with eating disorders, evaluate the impact of alcoholism on eating disorder course and outcome, and describe the longitudinal sequence of comorbidity in terms of onset, recovery, relapse, and fatal outcome, between eating disorders, alcoholism, and major depressive disorder.

2 RO1-DK5625-06A1 Klibanski (PI) Period: 5/19/97-4/30/02

Agency: NIH/DK

"IGF-1 and bone loss in women with anorexia nervosa"

The major goals of this project are to investigate the time course of effects on bone turnover and whether rhIGF-I administration has prolonged effects on bone formation. We will also determine whether chronic administration of rhIGF-I increases bone mass and whether the interaction of IGF-I and gonadal steroids both increases formation and decreases resorption.

Herzog (PI) Period: 6/01/02-5/31/03

"Alcoholism in Women with Anorexia and Bulimia Nervosa"

Agency: ABMRF

The major goals of this study are to describe the development of alcoholism in women with eating disorders evaluate the impact of alcoholism on eating disorder course and outcome, and describe the longitudinal sequence of comorbidity in terms of onset, recovery, relapse, and fatal outcome, between eating disorders, alcoholism, and major depressive disorder.