BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: COURCOULAS, ANITA			
eRA COMMONS USER NAME (credential, e.g., agency login): cc	urcoulasap		
POSITION TITLE: Professor of Surgery			
EDUCATION/TRAINING (Begin with baccalaureate or other initial	professional	education, s	such as nursing,
include postdoctoral training and residency training if applicable. A	dd/delete row	vs as neces	sary.)
INSTITUTION AND LOCATION	DEGREE	END	FIELD OF STUDY
	(if	DATE	
	applicable)	MM/YYYY	
Brown University, Providence, RI	BS	1983	Psychology/English
Boston University, School of Medicine, Boston, MA	MD	1988	Medicine
University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA	MPH	1993	Epidemiology

A. Personal Statement

As Professor of Surgery with Tenure and Section Head of the Minimally Invasive Bariatric and General Surgery Program at the University of Pittsburgh Medical Center, I have a strong record of excellence in clinical research and clinical care at one of the oldest and largest academic bariatric surgery programs in the country. I co-direct the SAGES Fellowship Training Program in bariatric surgery and co-direct the University of Pittsburgh Surgical Outcomes Research Center that supports the conduct of health services research across the system. My early research interests in the field of bariatric surgery were the study of risk stratification, volume-outcome relationships, and predictors of weight and health outcomes. In 2004, I was awarded NIH-funding for the first systematic, longitudinal, multi-site study of bariatric surgery; The Longitudinal Assessment of Bariatric Surgery (LABS) Study that continued through 2017. I directed the largest clinical site in that consortium and made important contributions to the literature from this data about longer-term weight, health, and other (adverse) outcomes, with publications in JAMA and NEJM. I also helped to establish a related NIH-funded study for teenagers called; Adolescent Bariatrics: Assessing Health Benefits and Risks (Teen-LABS) and currently lead the only adult-based center in that consortium. This study is still on going and has published results in the NEJM. I have also been continually funded by NIH-NIDDK since 2009 for A Randomized Trial to Compare Surgical and Medical Treatments for Type 2 Diabetes; first as a single site trial and now as a pooled consortium of 4 such trials from across the country which constitute the largest group of individuals randomized to surgical versus non-surgical treatments for type 2 diabetes. My work in this area has contributed knowledge/publications that have changed the treatment algorithm for people with class 1 obesity and diabetes to include bariatric/metabolic surgery. I am also involved in the evaluation of new surgical treatments and devices, publishing the pivotal trial for an intra-gastric balloon device, as one example. Finally, my clinical research program has now extended to include NIH-funded, mechanistic, first-in-human, longitudinal and translational studies to test the hypotheses of intestinal metabolic reprogramming as an underlying mechanism for the diabetes improvement following gastric bypass and to characterize the metabolomic changes in obesity. In my laboratory, we continue to contribute to the leading edge of clinical and translational research in the field of bariatric and metabolic (diabetes) surgery.

- Inge TH, Courcoulas AP, Jenkins TM, Michalsky MP, Brandt ML, Xanthakos SA, Dixon JB, Harmon CM, Chen MK, Xie C, Evans ME, Helmrath MA. Five-Year Outcomes of Gastric Bypass in Adolescents Compared to Adults. N Engl J Med., 2019 May 16. PMID: <u>31116917</u>
- Courcoulas AP, Gallagher JW, Neiberg RH, Eagleton EB, DeLany JP, Lang W, Punchai S, Gourash W, Jakicic JM. Bariatric Surgery vs. Lifestyle Intervention for Diabetes Treatment: Five Year Outcomes From a Randomized Trial. J Clin Endocrinol Metab. 2020 Jan 9. PMID: <u>31917447</u>

3. Arterburn DE, Telem DA, Kushner RF, Courcoulas AP. Benefits and risks of bariatric surgery in adults: A review. JAMA. 2020 Sep 1;324(9):879-887. doi:10.1001/jama.2020.12567. PMID: <u>32870301</u>.

B. Positions and Honors

Positions and Employment

- 1991 1993 Research Fellow, Liver Transplantation Database, UPMC Graduate School of Public Health, Pittsburgh, PA
- 1996 1997 Visiting Assistant Professor of Surgery, Department of Surgery, UPMC School of Medicine, Pittsburgh, PA
- 1997 2006 Assistant Professor of Surgery Tenure Stream, Department of Surgery, UPMC, Pittsburgh, PA
- 2002 2005 Director, Bariatric Surgery, UPMC Shadyside Hospital, Pittsburgh, PA
- 2003 2005 Fellowship Program Director, Laparoscopic Bariatric Surgery Fellowship Program, University of Pittsburgh, Pittsburgh, PA
- 2005 Chief, Division of Minimally Invasive Bariatric and General Surgery, Department of Surgery, UPMC, Pittsburgh, PA
- 2005 2019 Fellowship Program Director, SAGES Fellowship Program, UPMC, Pittsburgh, PA
- 2006 2010 Associate Professor for Surgery Tenure Stream, Department of Surgery, School of Medicine, UPMC, Pittsburgh, PA
- 2010 Professor of Surgery with Tenure, Department of Surgery, UPMC School of Medicine, UPMC, Pittsburgh, PA
- 2013 Co-Founder, Co-Director, University of Pittsburgh PittSORCE (Surgical Outcomes Research Center), Pittsburgh, PA
- 2019 Anthony M. Harrison, MD, Chair in Surgery, University of Pittsburgh Department of Surgery, Pittsburgh, PA
- 2020 Fellowship Program, Co-Director, University of Pittsburgh Medical Center SAGES Fellowship Program, Pittsburgh, PA

Other Experience and Professional Memberships

- 1997 Member, American Society for Bariatric Surgery
- 1997 Member, Pennsylvania Medical Society
- 1998 Member, Pittsburgh Gut Club and Western Pennsylvania Endoscopic Society
- 1999 Member, The International Federation for the Surgery of Obesity
- 1999 Member, American Obesity Association
- 1999 Member, Society of Laparoendoscopic Surgeons
- 2001 Member, Central Surgical Association
- 2002 Member, Society of American Gastrointestinal Endoscopic Surgeons (SAGES)
- 2007 Member, Society of University Surgeons
- 2008 Fellow, American Society for Metabolic and Bariatric Surgery Fellowship
- 2009 Member, Society for Clinical and Translational Science
- 2010 Member, The Obesity Society
- 2014- Fellow, American Surgical Association

Honors

- 2003 Best Paper by New Member Award, Central Surgical Association
- 2005 Outstanding Achievement Award, Nominee, American Society for Bariatric Surgery

2009-2019 Patients' Choice Award

- 2008-2019 America's Top Doctor, Castle Connolly Medical LTD
- 2020 Excellence in Patient Experience Award, UPMC

C. Contribution to Science

1. Long term Outcomes of Bariatric Surgery – Recent work has focused on longer-term weight and health outcomes in carefully studied, multi-center cohorts with detailed data on many diverse health domains.

In addition, we have published even larger comparative studies of bariatric surgical outcomes from national clinical data research networks.

- a. Courcoulas AP, King WC, Belle SH, Berk P, Flum DR, Garcia L, Gourash W, Horlick M, Mitchell JE, Pomp A, Pories WJ, Purnell JQ, Singh A, Spaniolas K, Thirlby R, Wolfe BM, Yanovski SZ. Seven-Year Weight Trajectories and Health Outcomes in the Longitudinal Assessment of Bariatric Surgery (LABS) Study. JAMA Surg. 2018 May 1;153(5):427-434. PubMed PMID: <u>29214306</u>; PubMed Central PMCID: <u>PMC6584318</u>.
- b. Courcoulas AP, Christian NJ, Belle SH, Berk PD, Flum DR, Garcia L, Horlick M, Kalarchian MA, King WC, Mitchell JE, Patterson EJ, Pender JR, Pomp A, Pories WJ, Thirlby RC, Yanovski SZ, Wolfe BM. Weight change and health outcomes at 3 years after bariatric surgery among individuals with severe obesity. JAMA. 2013 Dec 11;310(22):2416-25. PubMed PMID: <u>24189773</u>; PubMed Central PMCID: <u>PMC3955952</u>.
- c. Field AE, Inge TH, Belle SH, Johnson GS, Wahed AS, Pories W, Spaniolas K, Mitchell JE, Pomp A, Dakin GF, Wolfe B, Courcoulas AP. Association of Obesity Subtypes in the Longitudinal Study of Bariatric Surgery Study and 3-Year Post-Operative Weight Change. Obesity (Silver Spring). 2018 Nov 13. PMID: <u>30421853</u>
- d. Courcoulas A, Coley RY, Clark JM, McBride CL, Cirelli E, McTigue K, Arterburn D, Coleman KJ, Wellman R, Anau J, Toh S, Janning CD, Cook AJ, Williams N, Sturtevant JL, Horgan C, Tavakkoli A; PCORnet Bariatric Study Collaborative. Interventions and Operations 5 Years After Bariatric Surgery in a Cohort From the US National Patient-Centered Clinical Research Network Bariatric Study. JAMA Surg. 2020 Jan 15. PMID: <u>31940024</u>
- e. King WC, Belle SH, Hinerman AS, Mitchell JE, Steffen KJ, Courcoulas AP. Patient Behaviors and Characteristics Related to Weight Regain After Roux-en-Y Gastric Bypass: A Multicenter Prospective Cohort Study. Ann Surg. 2019 Apr 4. PMID: <u>30950861</u>
- f. King WC, Hinerman AS, Belle SH, Wahed AS, Courcoulas AP. Comparison of the Performance of Common Measures of Weight Regain After Bariatric Surgery for Association with Clinical Outcomes. JAMA. 2018 Oct 16;320(15):1560-1569. PMID: <u>30326125</u>
- g. King WC, White GE, Belle SH, Yanovski SZ, Pomp A, Pories WJ, Wolfe BM, Ahmed B, Courcoulas AP. Changes in Smoking Behavior Before and After Gastric Bypass: A 7-year Study. Ann Surg. 2020 Feb 20. PMID: <u>32084036</u>
- 2. Bariatric Surgery for the Treatment of Type 2 Diabetes There is much interest in understanding the mechanisms and durability of the effect of bariatric surgical procedures, especially gastric bypass, on type 2 diabetes outcomes. Some work in this area has been descriptive in large cohorts and other work has focused on comparative effectiveness of surgical versus non-surgical treatment options. In addition, mechanistic and translational studies in humans have been published by our group.
 - Purnell JQ, Selzer F, Wahed AS, Pender J, Pories W, Pomp A, Dakin G, Mitchell J, Garcia L, Staten MA, McCloskey C, Cummings DE, Flum DR, Courcoulas A, Wolfe BM. Type 2 Diabetes Remission Rates After Laparoscopic Gastric Bypass and Gastric Banding: Results of the Longitudinal Assessment of Bariatric Surgery Study. Diabetes Care. 2016 Jul;39(7):1101-7. PubMed PMID: <u>27289123</u>; PubMed Central PMCID: <u>PMC4915561</u>.
 - b. Courcoulas AP, Belle SH, Neiberg RH, Pierson SK, Eagleton JK, Kalarchian MA, DeLany JP, Lang W, Jakicic JM. Three-Year Outcomes of Bariatric Surgery vs Lifestyle Intervention for Type 2 Diabetes Mellitus Treatment: A Randomized Clinical Trial. JAMA Surg. 2015 Oct;150(10):931-40. PubMed PMID: <u>26132586</u>; PubMed Central PMCID: <u>PMC4905566</u>.
 - c. Courcoulas AP, Stefater MA, Shirley E, Gourash WF, Stylopoulos N. The Feasibility of Examining the Effects of Gastric Bypass Surgery on Intestinal Metabolism: Prospective, Longitudinal Mechanistic Clinical Trial. JMIR Res Protoc. 2019 Jan 24. PMID: 30679147
 - d. Ben-Zvi D, Meoli L, Abidi WM, Nestoridi E, Panciotti C, Castillo E, Pizarro P, Shirley E, Gourash WF, Thompson CC, Munoz R, Clish CB, Anafi RC, Courcoulas AP, Stylopoulos N. Time – Dependent Molecular Responses Differ between Gastric Bypass and Dieting but Are

Conserved Across Species. Cell Metab. 2018 Aug 7;28(2):301-323.e6. doi: 0.1016/j.cmet.2018.06.004. Epub 2018 Jun 28. PMID: <u>30043755</u>.

- e. Courcoulas AP, Goodpaster BH, Eagleton JK, Belle SH, Kalarchian MA, Lang W, Toledo FG, Jakicic JM. Surgical vs medical treatments for type 2 diabetes mellitus: a randomized clinical trial. JAMA Surg. 2014 Jul;149(7):707-15. PubMed PMID: <u>24899268</u>; PubMed Central PMCID: <u>PMC4106661</u>.
- 3. Research Priorities and Advances in Bariatric Surgery Due to the rapid advancement of the science and literature in the field of bariatric surgery, the focus and prioritization of research goals has been an important topic of both academic and clinical interest. In addition, clinical trials for new devices have been an important part of understanding the role of new technology and innovation in the field of bariatric surgery.
 - Courcoulas AP, Yanovski SZ, Bonds D, Eggerman TL, Horlick M, Staten MA, Arterburn DE; Long-term Outcomes of Bariatric Surgery: A National Institutes of Health Symposium. JAMA Surg. 2014 Dec 1;149(12):1323-9. doi: 10.1001/jamasurg.2014.2440 PMID: <u>25271405</u>
 - MacLean PS, Rothman AJ, Nicastro HL, Czajkowski SM, Agurs-Collins T, Rice EL, Courcoulas AP, Ryan DH, Bessesen DH, Loria CM. The Accumulating Data to Optimally Predict Obesity Treatment (ADOPT) Core Measures Project: Rationale and Approach. Obesity (Silver Spring). 2018 Apr;26 Suppl 2:S6-S15. PubMed PMID: <u>29575780</u>; PubMed Central PMCID: <u>PMC5973529</u>.
 - c. Courcoulas A, Abu Dayyeh BK, Eaton L, Robinson J, Woodman G, Fusco M, Shayani V, Billy H, Pambianco D, Gostout C. Intragastric balloon as an adjunct to lifestyle intervention: a randomized controlled trial. Int J Obes (Lond). 2017 Mar;41(3):427-433. PubMed PMID: <u>28017964</u>.
 - d. Eid GM, McCloskey CA, Eagleton JK, Lee LB, Courcoulas AP. StomaphyX vs a sham procedure for revisional surgery to reduce regained weight in Roux-en-Y gastric bypass patients: a randomized clinical trial. JAMA Surg. 2014 Apr;149(4):372-9. PubMed PMID: <u>24554030</u>.
- 4. Psychosocial Outcomes and Special Populations in Bariatric Surgery –We have studied the impact of bariatric surgery on depression and substance misuse and completed one of the first population-based studies on the increased risk of suicide. We have also been interested in the outcomes of surgery in special populations, such as adolescents. The work from Teen LABS has made significant contributions to a growing body of literature by examining baseline co-morbid conditions, short term safety outcomes, and outcomes from various health domains.
 - a. Inge TH, Courcoulas AP[^], Jenkins TM, Michalsky MP, Helmrath MA, Brandt ML, Harmon CM, Zeller MH, Chen MK, Xanthakos SA, Horlick M, Buncher CR; Teen-LABS Consortium. Weight Loss and Health Status 3 Years after Bariatric Surgery in Adolescents. N Engl J Med. 2016 Jan 14;374(2):113-23. PMID: <u>26544725</u> ^ LABS Adult Consortium Lead Author
 - b. Courcoulas A. Who, Why, and How? Suicide and Harmful Behaviors After Bariatric Surgery. Ann Surg. 2016 Oct 4. [Epub ahead of print] PMID: <u>27735820</u>
 - King WC, Chen JY, Mitchell JE, Kalarchian MA, Steffen KJ, Engel SG, Courcoulas AP, Pories WJ, Yanovski SZ. Prevalence of alcohol use disorders before and after bariatric surgery. JAMA. 2012 Jun 20;307(23):2516-25. PubMed PMID: <u>22710289</u>; PubMed Central PMCID: <u>PMC3682834</u>.
 - d. Tindle HA, Omalu B, Courcoulas A, Marcus M, Hammers J, Kuller LH. Risk of suicide after long-term follow-up from bariatric surgery. Am J Med. 2010 Nov;123(11):1036-42. PubMed PMID: <u>20843498</u>; PubMed Central PMCID: <u>PMC4296730</u>.
 - e. King WC, Chen JY, Belle SH, Courcoulas AP, Dakin GF, Elder KA, Flum DR, Hinojosa MW, Mitchell JE, Pories WJ, Wolfe BM, Yanovski SZ. Change in Pain and Physical Function Following Bariatric Surgery for Severe Obesity. JAMA. 2016 Apr 5;315(13):1362-71. PubMed PMID: <u>27046364</u>; PubMed Central PMCID: <u>PMC4856477</u>.

f. White GE, Courcoulas AP, Richardson GA, Mair C, King WC. Alcohol Use Thresholds for Identifying Alcohol-related Problems Before and Following Roux-en-Y Gastric Bypass. Ann Surg. 2019 Jun;269(6):1001-1009. PMID: <u>31082893</u>

Complete List of Published Work in My Bibliography:

https://www.ncbi.nlm.nih.gov/myncbi/anita.courcoulas.1/bibliography/public/

D. Additional Information: Research Support and/or Scholastic Performance

Selected Ongoing Research Support

U01DK114156, NIDDK (Courcoulas Site PI)

Alliance of Randomized trials of Medicine vs. Metabolic Surgery in Type 2 Diabetes (ARMMS-T2D) Consortium This project provides long-term multi-center extension to four randomized trials comparing surgical and medical treatments in Type 2 Diabetes. It includes the Triabetes Study (A Randomized Trial to Compare Surgical and Medical Treatments for Type 2 Diabetes), which compares outcomes of 3 of the most common bariatric surgical procedures with a comprehensive medical treatment for Type 2 Diabetes in a large cohort of randomized patients (>300) with body mass index between 30 and 40.

Role: Site PI

5RS2DK116691, NIDDK (Rosen)

Generation of a Cellular Atlas of Adipose Tissue in Mouse and Man

The proposed research proposes the do single cell RNA sequencing to create an atlas of cell types in human and murine adipose tissue. This unique resource is designed to accelerate scientific progress in the future. One of the sub-aims will be to look at how cellular composition changes in respond to various perturbations, one or which would be gastric bypass which will require serial subcutaneous and intra-abdominal adipose tissue samples which will be provided by Dr. Courcoulas.

Role: Co-Investigator

5UM1DK072493, NIDDK (Courcoulas Site PI)

Adolescent Bariatrics: Assessing Health Benefits and Risks (Teen LABS)

This is a prospective, longitudinal study that examines the impact of gastric bypass and gastric sleeve surgery as treatment for severe obesity by measuring comorbidities, health outcomes, complications, and quality of life in adolescents.

Role: Site PI

R01DK108642, NIDDK (Stylopoulos)

Intestinal Metabolic Reprogramming as a Key Mechanism of Gastric Bypass in Humans This is a descriptive, observational, longitudinal trial in which changes in the metabolism of the Roux limb of the small intestine will be analyzed in patients (with and without Type 2 diabetes) who have had Roux-in-Y Gastric Bypass. Intestinal adaptation and changes in metabolism of the Roux limb will be studied. **Role: Co-Investigator**

PCORI, (Arterburn)

Shared Decision Making for Bariatric Surgery in Patients with Severe Obesity This project team proposes to incorporate the new PCORI comparative effectiveness research evidence on bariatric surgery from the PCORnet Bariatric Study (PBS) into its decision aid and the Shared Decision Making approach, which has a demonstrated impact on patient knowledge, decisional conflict, satisfaction, and care decisions, and then implement and rigorously evaluate the updated strategy at two large healthcare systems: Kaiser Permanente Washington (KPWA) and UPMC in Pennsylvania. **Role: Co-Investigator**

04/01/19-03/31/23

09/24/15-08/31/21

07/04/17-06/30/22

04/1/2019 - 03/31/2022

09/23/11-08/31/21