

Pediatrics 2017 Annual Report – Division Highlights

Endocrinology & Diabetes

DIVISION DESCRIPTION

The Division of Endocrinology and Diabetes provides state-of-the-art medical care through seven multidisciplinary clinics: Diabetes, Endocrinology, Polycystic Ovarian syndrome, Turner syndrome, Pediatric and Adolescent Transgender Health, Metabolic Syndrome, and Pediatric Fitness Clinics

Our research aims to improve the health and quality of life of children with diabetes and endocrine disorders, to understand the development and health effects of adipose tissue from infancy through adolescence, and to prevent childhood obesity and its consequences.

2017 HIGHLIGHTS

- Division chief **David Allen, MD**, was chosen to receive the Wisconsin Medical Alumni Association's 2018 Alumni Resident Citation Award. This annual award is the association's most prestigious award and is given to an alumnus who has distinguished themselves in medicine.
- **Ellen Connor, MD**, was selected as president-elect of the North American Society for Pediatric and Adolescent Gynecology (NASPAG). She will then serve as NASPAG president from April 2018 through April 2019, and then past-president beginning in 2019.
- James Gannon, an undergraduate student mentored by Pamela Kling, MD, and **Allison Pollock, MD**, received a 2017-2018 University of Wisconsin Hilldale Undergraduate/Faculty Research Fellowship.
- In 2017, *U.S. News and World Report* ranked American Family Children's Hospital (AFCH) among the [top 50 children's hospitals for diabetes and endocrinology \(https://www.uwhealthkids.org/news-and-events/american-family-childrens-hospital-ranks-among-us-news-world-report-best-hospitals/51058\)](https://www.uwhealthkids.org/news-and-events/american-family-childrens-hospital-ranks-among-us-news-world-report-best-hospitals/51058).

RECENT PUBLICATIONS

Ansari IH, Longacre MJ, Stoker SW, Kendrick MA, O'Neill LM, Zitur LJ, Fernandez LA, Ntambi JM, **MacDonald MJ**. Characterization of Acyl-CoA synthetase isoforms in pancreatic beta cells: Gene silencing shows participation of ACSL3 and ACSL4 in insulin secretion. *Arch Biochem Biophys*. 2017 Mar 15;618:32-43. doi: 10.1016/j.abb.2017.02.001. Epub 2017 Feb 11. PubMed PMID: 28193492; PubMed Central PMCID: PMC5445904.

Garcia JP, Guerriero KA, Keen KL, Kenealy BP, Seminara SB, **Terasawa E**. Kisspeptin and neurokinin B signaling network underlies the pubertal increase in GnRH release in female rhesus monkeys. *Endocrinology*. 2017 Oct 1;158(10):3269-3280. doi: 10.1210/en.2017-00500. PubMed PMID: 28977601; PubMed Central PMCID: PMC5659687.

Grimberg A, **Allen DB**. Growth hormone treatment for growth hormone deficiency and idiopathic short stature: new guidelines shaped by the presence and absence of evidence. *Curr Opin Pediatr*. 2017

Aug;29(4):466-471. doi: 10.1097/MOP.0000000000000505. PubMed PMID: 28525404; PubMed Central PMCID: PMC5565215.

Gross C, Ellison B, Buchman AS, **Terasawa E**, VanderHorst VG. A novel approach for assigning levels to monkey and human lumbosacral spinal cord based on ventral horn morphology. PLoS One. 2017 May 24;12(5):e0177243. doi: 10.1371/journal.pone.0177243. eCollection 2017. PubMed PMID: 28542213; PubMed Central PMCID: PMC5443490.

Kenealy BP, Keen KL, Garcia JP, Kohlenberg LK, **Terasawa E**. Obligatory role of hypothalamic neuroestradiol during the estrogen-induced LH surge in female ovariectomized rhesus monkeys. Proc Natl Acad Sci U S A. 2017 Dec 26;114(52):13804-13809. doi: 10.1073/pnas.1716097115. Epub 2017 Dec 11. PubMed PMID: 29229849; PubMed Central PMCID: PMC5748216.

McCabe KE, **Pollock AJ**, **Rehm JL**, DeSantes KB. Curative potential of allogeneic hematopoietic stem cell transplant in type 1 diabetes. Pediatr Diabetes. 2017 Dec;18(8):832-834. doi: 10.1111/pedi.12430. Epub 2016 Aug 30. PubMed PMID: 27572817. **

Phannasil P, **Ansari IH**, El Azzouny M, Longacre MJ, Rattanapornsompong K, Burant CF, MacDonald MJ, Jitrapakdee S. Mass spectrometry analysis shows the biosynthetic pathways supported by pyruvate carboxylase in highly invasive breast cancer cells. Biochim Biophys Acta. 2017 Feb;1863(2):537-551. doi: 10.1016/j.bbdis.2016.11.021. Epub 2016 Nov 24. PubMed PMID: 27890529; PubMed Central PMCID: PMC5243144.

Pollock AJ, Seibert TS, Salvatori C, Caturegli P, **Allen DB**. Pituitary antibodies in an adolescent with secondary adrenal insufficiency and Turner Syndrome. Horm Res Paediatr. 2017;87(2):123-129. doi: 10.1159/000446912. Epub 2016 Jun 30. PubMed PMID: 27355580; PubMed Central PMCID: PMC5201459. **

Styne DM, Arslanian SA, **Connor EL**, Farooqi IS, Murad MH, Silverstein JH, Yanovski JA. Pediatric obesity—assessment, treatment, and prevention: An Endocrine Society clinical practice guideline. J Clin Endocrinol Metab. 2017 Mar 1;102(3):709-757. doi: 10.1210/jc.2016-2573. PubMed PMID: 28359099.

Szadkowski A, **Pollock AJ**, Al-Subu AM. Hyperkalemia and acute kidney injury in an adolescent: Thinking outside the box. Pediatr Emerg Care. 2017 Dec 1. doi: 10.1097/PEC.0000000000001374. [Epub ahead of print] PubMed PMID: 29200139. *

Vanderwall C, Randall Clark R, Eickhoff J, **Carrel AL**. BMI is a poor predictor of adiposity in young overweight and obese children. BMC Pediatr. 2017 Jun 2;17(1):135. doi: 10.1186/s12887-017-0891-z. PubMed PMID: 28577356; PubMed Central PMCID: PMC5457636.

Wolfgram PM, **Allen DB**. Effects of inhaled corticosteroids on growth, bone metabolism, and adrenal function. Adv Pediatr. 2017 Aug;64(1):331-345. doi: 10.1016/j.yapd.2017.03.006. Review. PubMed PMID: 28688596.

Wrigley R, Kerruish N, Hofman PL, Jefferies C, **Pollock AJ**, Wheeler BJ. Growth attenuation therapy for children with severe physical and cognitive disability: Practice and perspectives of New Zealand paediatricians. J Paediatr Child Health. 2017 Dec;53(12):1180-1185. doi: 10.1111/jpc.13629. Epub 2017 Jul 3. PubMed PMID: 28671746.

**ePub only; no print citation available when report was compiled*

*** Publication had previously appeared in 2016 report as an ePub*

GRANT SUPPORT

Faculty/Role	Funding Agency	Title
Allen, David B (PI)	Covance Inc	ANSWER registry
Allen, David B (PI) with Carrel, Aaron (associate director)	DHHS, PHS, National Institutes of Health	Childhood diabetes clinical & molecular research training program (CDCMRT)
Allen, David B (PI)	Pediatric Endocrine Society	Kanner PES travel grant
Allen, David B (PI)	Pediatric Endocrine Society	Mann PES travel grant
Allen, David B (PI)	Pediatric Endocrine Society	Naik PES travel grant
Allen, David B (PI)	Pediatric Endocrine Society	Strait PES travel grant
Allen, David B (PI)	UW Health	Improving access to quality pediatric diabetes care through telemedicine
Carrel, Aaron (co-I) with Petty, Elizabeth (PI)	UWF - Wisconsin Partnership - MERC	Engaging clinicians in online social learning to close knowledge gaps in community health: pilot focus on obesity and mental health care
Carrel, Aaron (co-I) with Cryns, Vincent (PI)	Wisconsin Partnership Program	Wisconsin obesity prevention initiative
Carrel, Aaron L (academic partner with Oneida County Health Department)	Wisconsin Partnership Program	Northwoods LEAN (Linking Education, Activity and Nutrition): Pathways to Health
MacDonald, Michael J (PI)	Multiple Donors	Juvenile diabetes research
MacDonald, Michael J (PI)	UWF - University of Wisconsin Foundation	Pediatrics diabetes center
Rehm, Jennifer L (PI)	DHHS, PHS, National Institutes of Health	Early intervention and prevention of non-alcoholic fatty liver disease in adolescents and young women
Rehm, Jennifer L (PI)	UWF – ICTR	Wisconsin survey of trans youth: an assessment of resources and needs
Rehm, Jennifer L (co-project leader) with Allen, Brittany J (co-project leader)	Reilly Baldwin Wisconsin Idea	An integrated path for transgender youth
Rehm, Jennifer L (co-I) with Reeder, Scott (PI)	DHHS, PHS, National Institutes of Health	Evolution of quantitative MRI biomarkers of metabolic syndrome during puberty
Rehm, Jennifer L (academic partner with Allen, Brittany J and Wisconsin Transgender Health Coalition)	Wisconsin Partnership Program	Transgender health - a new horizon in equity and health care
Terasawa-Grilley, Ei (PI)	DHHS, PHS, National Institutes of Health	Stem cell-derived GnRH neurons: optimization and characterization
Terasawa-Grilley, Ei (PI)	Massachusetts General Hospital	Kisspeptin and neurokinin B: From physiology in the monkey to pathophysiology in the human
Terasawa-Grilley, Ei (PI)	UWF - University of Wisconsin Foundation	ADRC R&D pilot
Terasawa-Grilley, Ei (PI)	UWHC - Affiliation Agreement	A non-invasive method for assessment of estradiol in the brain
Terasawa-Grilley, Ei (co-I) with Mailick, Marsha (PI)	NIH/Office of the Director	Wisconsin National Primate Center