Report of Research Accomplishments

2020

Beaumont Health
For more than 55 years, researchers at Beaumont have helped to bring new technologies, new treatments, and new medications into the practice of medicine, and have helped to move the standard of care forward to improve the safety and quality of medical care for patients locally, nationally, and internationally. The greatest reward from these achievements is the realization that patients’ lives are improved and enriched because of the outstanding research carried out by Beaumont physicians, scientists and staff.

Outstanding biomedical research is a major component of the excellent reputation of Beaumont Health as an academic health system. The Board of Directors at Beaumont made a commitment several decades ago to strengthen Beaumont as an academic institution through growth and support of graduate medical education, the hiring of physicians and scientists with a history of excellence in research and committed support of ongoing research activities of key programs. This commitment has helped to forge the reputation of Beaumont Health as a leading academic health system, with recognition by U.S. News and World Report, a distinction which places Beaumont in the forefront of medicine in the U.S.

With Beaumont Health’s role as the health care affiliate of the Oakland University William Beaumont School of Medicine, our research activities, graduate medical education, and scholarly endeavors are even more important. Our Board of Directors and senior leadership have reaffirmed their commitment to this ongoing academic mission. Strong undergraduate medical education requires faculty committed to research and a broad, excellent program of graduate medical education. The ACGME (Accreditation Council on Graduate Medical Education) is steadily increasing the requirements for excellence in both faculty research achievement and resident/fellow research training in order to maintain full accreditation for residency and fellowship programs. The Board for Accrediting Level 1 Trauma Center status, presently achieved by Beaumont Royal Oak, now requires productivity of peer-reviewed publications in recognized journals by participating faculty. The LCME (Liaison Committee on Medical Education), the accrediting organization for medical schools in the U.S. and Canada, requires the presence of biomedical research activities that can provide basic, translational and population research opportunities for medical students. The OUWB medical school provides further impetus to enhance biomedical research at both Beaumont and Oakland University, to integrate research activities between the two institutions, and to initiate new programs, centers, and collaborative projects shared by both institutions. Beaumont and Oakland University already have several areas of long-standing ongoing research collaboration.

Beaumont research is heavily oriented towards translational research, investigating new treatments, pharmaceuticals, medical devices, and scientific approaches aimed at enhancing the excellence and safety of patient care. Beaumont has a robust program of clinical research, with over 1,200 trials. Beaumont’s clinical services are superb, providing the standard upon which new and innovative research is built. The volume of patients served at Beaumont, combined with the excellence of clinical care, provides a striking opportunity to develop new treatments. Moving forward, Beaumont Health and OUWB will build upon existing research strengths in nationally recognized clinical and translational programs, including Cardiovascular Medicine, Oncology, Radiation Oncology, Urology, Orthopaedics, OB/GYN, Ophthalmology, Emergency Medicine and many others, to establish a new emphasis in population/community health and learning health system initiatives that will focus on improving health and healthcare delivery for our patients and communities.

We are proud to present this Report of Research Accomplishments. It highlights the depth and breadth of Beaumont’s academic excellence, including our affiliation with OUWB. We extend our congratulations and appreciation to the many investigators who have contributed these extraordinary achievements.
Beaumont Health, serving southern Michigan and beyond, recognizes the inherent value of research as a major contributing factor to future improvements in health care delivery and the health of our local and global communities. The Beaumont Research Institute (BRI), established by the Board of Trustees in 1966, strengthens Beaumont’s ability to conduct medical research and to provide research training for allied health and medical staff and students in undergraduate and graduate medical education programs. Beaumont Health is a major teaching facility, with 77 accredited residency and fellowship programs involving 801 residents and 109 fellows, and 150 research staff.

**Funding**
Research Institute actual operations $31.3M

**External Sources of Research Funding**
- Non-Federal sponsors 18 %
- Federal sponsors 18 %
- Philanthropic sponsors 24 %
- Intellectual Property 40 %

**Types of Research at Beaumont Health**
Percentage of expenses
- Clinical Research 42 %
- Pre-Clinical Research 58 %

**External Research Funding by Service Line**
- Radiation Oncology 31 %
- Urology 12 %
- Emergency 5 %
- Infectious Diseases 5 %
- Orthopaedics 5 %
- Cardiology 4 %
- Other Service Line 11 %
- Intellectual Property 27 %

**Clinical Research**
- 1,510 clinical studies
- 378 interventional studies
- 1,132 non-interventional studies
- 459 active principal investigators
- 25,369 registered research participants

**Educational Opportunities for Research Staff**
- 2-day orientation for new clinical research staff
- Animal use training
- Online CITI human subjects protection training
- Online guidance/modules on initiating research
- Seminar series and workshops

**Support Staff Available**
- Accounting / Contracting / Administrative
- Biostatistics / Informatics
- Commercialization Center
- Compliance Office
- Research Data Management and Computing
- Grant Development
- Human Resources
- Institutional Animal Care and Use Committee
- Institutional Biosafety Committee
- Institutional Review Board
- Outcomes Research Group
- Research Education and Process Improvement

**Support for the Research Institute**
- AAALAC accredited animal facility
- AAHRPP accredited human research protection program
- Beaumont Research Coordinating Center
- BioBank / Erb Family Core Molecular Lab
- Flash CT scanner
- Fully equipped bench laboratories
- National Cancer Institute Cooperative Group Trials Site
- Partnership with OUWB School of Medicine
- Proton Beam
- PET-CT and Biotracer
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BEAUMONT HOSPITAL – DEARBORN, TAYLOR, TRENTON and WAYNE

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Note: * Indicates the author(s) was not Beaumont staff at the time of publication, or was a Beaumont employee at the time of the publication but has since left Beaumont.
BEAUMONT HOSPITAL
Royal Oak, Troy, Grosse Pointe
ANESTHESIOLOGY AND PERIOPERATIVE MEDICINE

Peer Reviewed Articles:


Invited Research Presentations:


ANESTHESIOLOGY AND PERIOPERATIVE MEDICINE

Invited Research Presentations:


Invited Research Presentations:


ANESTHESIOLOGY AND PERIOPERATIVE MEDICINE

Invited Research Presentations:


Abstracts with Associated Research Presentations:


Non-Peer Reviewed Research Publications:


BIOBANK

Peer-Reviewed Articles:


Peer Reviewed Articles:


CARDIOVASCULAR MEDICINE

Peer Reviewed Articles:


Peer Reviewed Articles:


Peer Reviewed Articles:


Haines DE. A paradigm shift to address occupational health risks in the EP laboratory. Heart Rhythm, 2020 May;17(5 Pt A):681-682.


CARDIOVASCULAR MEDICINE

Peer Reviewed Articles:


Peer Reviewed Articles:


**CARDIOVASCULAR MEDICINE**

**Peer Reviewed Articles:**


Peer Reviewed Articles:


CARDIOVASCULAR MEDICINE

Peer Reviewed Articles:


Invited Research Presentations:


Invited Research Presentations:


Abstracts with Associated Research Presentations:


**Peer Reviewed Articles:**


COLON AND RECTAL SURGERY

Abstracts with Associated Research Presentations:


Peer-Reviewed Articles:


DIAGNOSTIC RADIOLOGY AND MOLECULAR IMAGING

Peer-Reviewed Articles:


Abstracts with Associated Research Presentations:


Abstracts with Associated Research Presentations:


Abstracts with Associated Research Presentations:


Peer-Reviewed Articles:


EMERGENCY MEDICINE

Peer-Reviewed Articles:


Chen B, Kanaan C, Jaiyesimi I, Ezekwudo D, Swor RA. Clinical characteristics of patients with cancer presenting to the emergency department and their use of emergency medical service transport. Prehospital Emergency Care, February 2020;24(6).


**EMERGENCY MEDICINE**

**Peer-Reviewed Articles:**


Peer-Reviewed Articles:


Saleem S. Berman B. Deep vein thrombosis and pulmonary embolism in the setting of mycoplasma infection. Case Reports in Medicine, September 2020;8708417.


EMERGENCY MEDICINE

Abstracts with Associated Research Presentations:


Kache S, Patel S, Chen NW, Qu L, Bahl A. Doomed peripheral intravenous catheters: Similar outcomes for emergency department and inpatient catheters. Society for Academic Emergency Medicine, May 2020. Virtual.

Keene S, Cameron-Comasco L. An ED geriatric assessment program is associated with increased discharge rate and decreased hospital length of stay. American College of Emergency Physicians Scientific Assembly, October 2020.


EMERGENCY MEDICINE

Abstracts with Associated Research Presentations:


*Talia N, Berger D, Chen NW, Purekar M, Qu L, Swor RA, [Otero R]. Lactate expression category and mortality in emergency department patients with severe sepsis and septic shock. Resuscitation Science Symposium, American Heart Association, Dallas, TX, November 2020.


Abstracts with Associated Research Presentations:

Peer Reviewed Articles:


Invited Research Presentations:


Pippitt K, Lick D, Walters E. Foundational faculty development: STFM’s online certificate programs for residency and medical school faculty. 54th Annual Conference of the Society of Teachers of Family Medicine, August 2020. Virtual.


Non-Peer Reviewed Research Publications:

Burch J, Mulhem E. For children with an acute exacerbation of asthma, what are the effects of second-line parenteral bronchodilators? Cochrane Clinical Answers, 2020 November.

Burch J, Mulhem E. What is the accuracy of galactomannan sandwich enzyme-linked immunosorbent assay (ELISA) on bronchoalveolar lavage fluid for detection of invasive aspergillosis in immunocompromised people? Cochrane Clinical Answers, 2020 December.


Mulhem E. What are the benefits and harms of prostacyclin for people with pulmonary arterial hypertension? Cochrane Clinical Answers, 2020 February.

Mulhem E. What are the benefits and harms of positive airway pressure (PAP) therapy for treatment of patients with central sleep apnea associated with heart failure? Cochrane Clinical Answers, 2020 March.


Mulhem E. How do educational interventions compare with usual care for promoting continuous positive airway pressure (CPAP) device usage in adults with obstructive sleep apnea? Cochrane Clinical Answers, 2020 September.


Mulhem E. How do mixed interventions (educational, supportive, behavioral) compare with usual care for promoting continuous positive airway pressure (CPAP) device usage in adults with obstructive sleep apnea? Cochrane Clinical Answers, 2020 September.

Mulhem E. For women undergoing assisted reproduction for subfertility, what are the effects of antioxidants? Cochrane Clinical Answers, 2020 September.


SUB-SPECIALTY DIVISIONS OF INTERNAL MEDICINE

Allergy and Immunology
Dermatology
Endocrinology
Gastroenterology and Hepatology
General Internal Medicine
Geriatrics
Hematology/Oncology
Infectious Diseases
Nephrology
Neurology
Nutrition and Preventive Medicine
Pulmonary and Critical Care Medicine
ALLERGY AND IMMUNOLOGY

Peer-reviewed articles:


Peer-reviewed articles:

Peer Reviewed Articles:


Peer-Reviewed Articles:

**Arora A, Jacob M, Cappell MS.** Novel videoendoscopy demonstrating irregularly pulsatile GI bleeding from left atrium via an esophageal fistula after pulmonary vein isolation and catheter ablation for atrial fibrillation. *Gastrointest Endosc, 2020 February 6.*


**Cappell MS.** Problems for gastrointestinal patients with diarrheal disorders: Limited access to public bathrooms because previously open public bathrooms have closed due to COVID-19 pandemic and inadequate number of bathrooms in some endoscopy suites. *Am J Gastroenterol, 2020 December 15.*

**Cappell MS.** Two case reports of novel syndrome of bizarre performance of gastrointestinal endoscopy due to toxic encephalopathy of endoscopists among 181767 endoscopies in a 13-year-university hospital review: Endoscopists, first do no harm! *World J Gastroenterol, 2020 March 7;26(9):984-991.*


GASTROENTEROLOGY

Peer-Reviewed Articles:


Gill, I; Edhi, Al; Cappell, MS. Proposed characterization of the syndrome of epidural pneumatosis (pneumorrhachis) in patients with forceful vomiting from diabetic ketoacidosis as a clinico-radiologic pentad based on systematic literature review & an illustrative case report. Medicine Baltimore, August 28, 2020;299(35).

*Gjeorgjievski M, Ghaith G. ERCP after percutaneous cholecystostomy: Methylene blue-assisted biliary cannulation for diminutive papilla. Gastrointest Endosc, 2020 October 29;S0016-5107(20)34930-0.


GASTROENTEROLOGY

Peer-Reviewed Articles:


GASTROENTEROLOGY

Peer-Reviewed Articles:


GASTROENTEROLOGY

Peer-Reviewed Articles:

GASTROENTEROLOGY

Abstracts with Associated Research Presentations:


Abstracts with Associated Research Presentations:


Peer Reviewed Articles:


Arora A, Jacob M, Cappell M. Novel videoendoscopy demonstrating irregular, pulsatile GI bleeding from left atrium through an esophageal fistula after pulmonary vein isolation and catheter ablation for atrial fibrillation. Gastrointest Endosc, 2020 July;92(1):211-212.


GENERAL INTERNAL MEDICINE

Peer Reviewed Articles:


*Bastola S, *KC O, Khanal S, Halalau A. Hepatitis-associated aplastic anemia from workout supplement: Rare but potentially fatal entity. SAGE Open Med Case Rep, 2020 January 22;8.


GENERAL INTERNAL MEDICINE

Peer Reviewed Articles:

Gill I, Edhi A, Cappell M. Proposed characterization of the syndrome of epidural pneumatosis (pneumorrhachis) in patients with forceful vomiting from diabetic ketoacidosis as a clinico-radiologic pentad based on systematic literature review and an illustrative case report. Medicine, 2020 August 28;99(35).


GENERAL INTERNAL MEDICINE

Peer Reviewed Articles:


GENERAL INTERNAL MEDICINE

Peer Reviewed Articles:


GENERAL INTERNAL MEDICINE

Peer Reviewed Articles:


GENERAL INTERNAL MEDICINE

Book Chapter or Full Book Publications:


GENERAL INTERNAL MEDICINE

Abstracts with Associated Research Presentations:


GENERAL INTERNAL MEDICINE

Abstracts with Associated Research Presentations:


GENERAL INTERNAL MEDICINE

Abstracts with Associated Research Presentations:


Peer Reviewed Articles:

HEMATOLOGY/ONCOLOGY

Peer Reviewed Articles:


**Chen B**, Kanaan C, Jaiyesimi I, Ezekwudo D, Swor R. Clinical characteristics of patients with cancer presenting to the emergency department and their use of emergency medical service transport. Prehosp Emerg Care, 2020 January 21;1-16.


HEMATOLOGY/ONCOLOGY

Peer Reviewed Articles:


HEMATOLOGY/ONCOLOGY

Peer Reviewed Articles:


HEMATOLOGY/ONCOLOGY

Abstracts with Associated Research Presentations:

Klavanian J, Zakalik D, Konde A, Rangarajan T. ATM mutation carriers and family history of pancreatic cancer: Nancy and James Grosfeld Cancer Genetics Center, Beaumont Health, Royal Oak, MI; Oakland University William Beaumont Hospital; Rose Cancer Center, Royal Oak, MI, May 2020.


Konde A, Ivan K, Klavanian J, Rangarajan T, Jaiyesimi IA, Zakalik D: Heterozygous germline ATM mutations in breast cancer: A single academic center experience. Oakland University William Beaumont Hospital, Rose Cancer Center, Royal Oak, MI; Nancy & James Grosfeld Cancer Genetics Center, Beaumont Hospital, Royal Oak, MI; Hematology and Oncology, Beaumont Royal Oak, MI, June 2020.
Peer Reviewed Articles:


Malamet BJ, Sims MD. Resistance in gram-negative bacteria in the pediatric patient population by age and sex. Open Forum Infectious Diseases, Volume 7, Issue Suppl 1, October 2020;S689.


Peer Reviewed Articles:

Peterson E, Fergus J, Yost C, Qu L, Chittick P. The effect of a multimodal stewardship approach on antibiotic prescribing for outpatients with acute respiratory tract infections: Order set implementation and education. Journal of the American College of Clinical Pharmacy, March 2020, Volume 3;1319-1325


INFECTION DISEASE

Book Chapter or Full Book Publications:

Johnson PC, Le M, Sims MD, Bozyk PD. Diagnosis and management of clostridium difficile infection (CDI). Evidence-based critical care: Cham: Springer; 2020;539-543.

**INFECTIONOUS DISEASE**

**Invited Research Presentations:**


Sims MD. The design and execution of a health system wide seroprevalence study for COVID-19. Association of Medical Laboratory Immunologists 33rd Annual Scientific Meeting, August 23, 2020. Virtual.
Peer Reviewed Articles:


Oska S, Lerma E, Topf J. A picture is worth a thousand views: A triple crossover trial of visual abstracts to examine their impact on research dissemination. J Medical Internet Research, 2020;22(12).


Peer Reviewed Articles:


NEUROLOGY

**Abstracts with Associated Research Presentations:**


**Invited Research Presentations:**


**Zillgitt A.** Practice of clinical magnetoencephalography: The past is the present and the future with so much more! St. Louis University, Department of Neurology Grand Rounds, Saint Louis, MO, May 28, 2020.
Abstracts with Associated Research Presentations:

Peer Reviewed Articles:


Nair GB, Al-Katib S, Castillo E. Pulmonary blood mass and quantitative lung function imaging in idiopathic pulmonary fibrosis. Radiology: Cardiothoracic Imaging, June 2020(3).


**Book Chapter or Full Book Publications:**


PULMONARY AND CRITICAL CARE

Abstracts with Associated Research Presentations:


Invited Research Presentations:

Nair GB. Introduction to quantitative imaging and machine learning platforms in pulmonary medicine. CHEST International meeting, October 2020.


Peer Reviewed Articles:


Peer Reviewed Articles:


OBSTETRICS / GYNECOLOGY

Peer Reviewed Articles:


OBSTETRICS / GYNECOLOGY

Peer Reviewed Articles:


Book Chapter or Full Book Publications:

Abstracts with Associated Research Presentations:


OPHTHALMOLOGY

Peer Reviewed Articles:


Peer Reviewed Articles:


Peer Reviewed Articles:


OPHTHALMOLOGY

Peer Reviewed Articles:


OPHTHALMOLOGY

Peer Reviewed Articles:


Temmerman IM, Mahmoud TH, Veckeneer MAH. Autologous neurosensory retinal transplant to treat refractory serous retinal detachment secondary to optic disc coloboma. Retinal Cases and Brief Reports, June 2020.


Peer Reviewed Articles:


Abstracts with Associated Research Presentations:


Wa CA, Faia LJ, Mahmoud TH. Post-operative intravitreal methotrexate injections after recurrent retinal detachment repair can reduce the risk and progression of proliferative vitreoretinopathy. The Association for Research in Vision and Ophthalmology; Baltimore, MD, May 2020.
**Invited Research Presentations:**


Non-Peer Reviewed Research Publications:


Peer Reviewed Articles:


ORTHOPAEDIC SURGERY

Peer Reviewed Articles:


ORTHOPAEDIC SURGERY

Peer Reviewed Articles:


ORTHOPAEDIC SURGERY

Peer Reviewed Articles:


ORTHOPAEDIC SURGERY

Book Chapter or Full Book Publications:


Abstracts with Associated Research Presentations:


Abstracts with Associated Research Presentations:


ORTHOPAEDIC SURGERY

Abstracts with Associated Research Presentations:


ORTHOPAEDIC SURGERY

Abstracts with Associated Research Presentations:


Non-Peer Reviewed Research Publications:

**PATHOLOGY and LABORATORY MEDICINE**

**Peer Reviewed Articles:**


Edhi AI, Hakim S, Shams C, Bedi D, **Amin MB,** Cappell MS. Clarithromycin-associated acute liver failure leading to fatal, massive upper gastrointestinal hemorrhage from profound coagulopathy: Case report and systematic literature review. Case Reports Hepatol, 2020 February 18.


Peer Reviewed Articles:


Micale M, Qu Z, Blake Martin. Machine learning can identify abnormal chromosomes to facilitate initial screening in the cytogenomics laboratory. Archives of Pathology & Laboratory Medicine, September 2020:144(9s1).

Misuraca MS, Li W, Marrone MG, Kanaan HD, Zhang PL, Golas VL, et al. The clinical features of overlap syndrome (ANCA-associated crescentic glomerulonephritis [AACGN] and immune complex-mediated glomerulonephritis) are similar to those of AACGN alone. Int Urol Nephrol, October 6, 2020.


Qu Z. Challenges for data extraction from narrative pathology reports Arch Pathol Lab Med, March 1, 2020;144 (3):273.


PATHOLOGY and LABORATORY MEDICINE

Peer Reviewed Articles:


Xie M, Ma H. Nasopharyngeal mantle cell lymphoma with IGH/CCND1 rearrangement and MALT1 amplification: A case study with literature review. Human Pathology: Case Reports, 2020 November 1;22.


PATHOLOGY and LABORATORY MEDICINE

Book Chapter or Full Book Publications:


Abstracts with Associated Research Presentations:


Lao KM, Kanaan HD, Li W, Zhang PL. Clinical indices for overlapping syndrome (ANCA associated crescentic glomerulonephritis [AAC GN] and immune complex medicated glomerulopathy) are similar to AACGN only cases. College of American Pathologists 109th Annual Meeting, Los Angeles, CA, February 29–March 5, 2020.


**Peer Reviewed Articles:**


Boudiab E, Khandhar P. Post-op day 1 fever is never atelectasis: Paediatric Surgery Essentials, July 2020.


PEDIATRICS

Peer Reviewed Articles:


Freij JB, Freij BJ. Scabies transmission studies on pacifist conscientious objectors in Great Britain during World War II. American Society for Microbiology, June 2020.


Holtrop P, Khandhar PB, Novotny N. Not all free air in the NICU is necrotizing enterocolitis. Paediatric Surgery Essentials, August 2020.


Peer Reviewed Articles:


PEDIATRICS

Peer Reviewed Articles:


PEDIATRICS

Book Chapter or Full Book Publications:


Abstracts with Associated Research Presentations:


Non-Peer Reviewed Research Publications:


Peer Reviewed Articles:


Invited Research Presentations:


**Peer Reviewed Articles:**


**LaBan M.** Regarding female office workers with moderate neck pain have increased anterior positioning of the cervical spine and stiffness of the upper trapezius myofascial tissues in sitting position. PM R, 2020 October;12(10):1060.

**LaBan M.** The initial appearance of neurofibromatosis "tumors" (von Recklinghausen's Disease) with the onset of pregnancy: A clinical letter. PM R, 2020 September 25.


Peer Reviewed Articles:


PHYSICAL MEDICINE AND REHABILITATION

Abstracts with Associated Research Presentations:


Ysunza PA. MBSS or FEES or both? MSHA Summer Symposium, July 31-August 1, 2020.

Abstracts with Associated Research Presentations:


Peer Reviewed Articles:


**RADIATION ONCOLOGY**

Peer Reviewed Articles:


Peer Reviewed Articles:


Peer Reviewed Articles:


Peer Reviewed Articles:


Peer Reviewed Articles:


Peer Reviewed Articles:


RADIATION ONCOLOGY

Peer Reviewed Articles:


RADIATION ONCOLOGY

Peer Reviewed Articles:


**Squires BS, Quinn TJ, Nandalur SR, Jawad MS.** Adjuvant radiotherapy improves overall survival when added to surgery and chemotherapy for endometrial carcinosarcoma: A surveillance, epidemiology, and end results analysis. International Journal of Radiation Oncology Biology Physics 2020 November1;108(3S).
RADIATION ONCOLOGY

Peer Reviewed Articles:


Vu C, Jawad M, Krauss D. The cost-effectiveness and value proposition of brachytherapy. Semin Radiat Oncol, January 2020,30(1);87-93.


Peer Reviewed Articles:


RADIATION ONCOLOGY

Abstracts with Associated Research Presentations:


Abstracts with Associated Research Presentations:


RADIATION ONCOLOGY

Abstracts with Associated Research Presentations:


RADIATION ONCOLOGY

Abstracts with Associated Research Presentations:


RADIATION ONCOLOGY

Invited Research Presentations:


*Castillo E. Surrogates for pulmonary ventilation and perfusion derived from non-contrast CT. Emory University, Department of Radiology and Imaging Sciences, Research in Progress Seminar, March 2020.


Ding X. Proton arc therapy. RaySearch North America Virtual User meeting, December 2020.


Ding X. Live webinar technology enabling proton arc therapy. European Society Radiation Oncology (ESTRO), May 2020.


Invited Research Presentations:

**Stromberg J.** Integration of prehab, rehab, and prospective surveillance into interdisciplinary team. 37th Annual Association of Community Cancer Centers (ACCC) meeting, September 2020.


**Yan D.** Adaptive treatment process with tumor metabolic imaging feedback. Department of Radiation Physics, MD Anderson Cancer Center, August 2020.
Peer Reviewed Articles:


Kache S, Patel S, Chen NW, Qu L, Bahl A. Doomed peripheral intravenous catheters: Bad outcomes are similar for emergency department and inpatient placed catheters: A retrospective medical record review. J Vasc Access, 2020 November.


RESEARCH ADMINISTRATION

Peer Reviewed Articles:


Abstracts with Associated Research Presentations:


Talia N, Berger D, Chen NW, Purekar M, Qu L, Swor R, Otero R. Lactate expression category and mortality in emergency department patients with severe sepsis and septic shock. Resuscitation Science Symposium, Dallas, TX, November 2020.


SUB-SPECIALTY DIVISIONS OF SURGICAL SERVICES
Peer Reviewed Articles:


BREAST CARE CENTER

Peer Reviewed Articles:

Abstracts Associated with Research Presentations:


Abstracts Associated with Research Presentations:

Peer-Reviewed Articles:


Peer Reviewed Articles:


GENERAL SURGERY

Peer Reviewed Articles:


GENERAL SURGERY

Peer Reviewed Articles:


Abstracts Associated with Research Presentations:


NEUROSURGERY

Peer-Reviewed Articles:


Peer-Reviewed Articles:

Spolyar JL. Nasoalveolar Molding (NAM), Latham treatment, or other: Controlling the narrative. Cleft Palate Craniofac J, 2020 May;57(5):661-663.
Peer-Reviewed Articles:


OTOLARYNGOLOGY

Peer-Reviewed Articles:


Peer Reviewed Articles:


Abstract with Associated Research Presentations:


Book Chapter or Full Publications:

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Invited Research Presentations:


**Peer Reviewed Articles:**


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**Peer-Reviewed Articles:**


**Appeared in Top Ten of All Time Lancet Papers on SSRN**

**Appeared in Top Ten of All Time MedRN: Respiratory Tract Infections (Topic) on SSRN**

**Top 10% SSRN Authors by total new downloads for 2020**

**Top Article Downloaded from Institution in 2020 according to ResearchGate**


**Martusiewicz A**, Khan AZ, Chamberlain AM, Keener JD, Aleem AW. Outpatient narcotic consumption following total shoulder arthroplasty. JSES Int, 2020 January 16;4(1):100-104.
Peer-Reviewed Articles:


Peer-Reviewed Articles:


UROLOGY

Book Chapter or Full Book Publications:


Abstracts with Associated Research Presentations:


BEST CLINICAL ABSTRACT


Meier K, Mccartney T, Burks F, Peters KM. Kidney stone video is an effective and welcome addition to patient counseling. North Central Section (NCS) of American Urological Association, Rancho Mirage, California, October 14-17, 2020. Virtual.

Abstracts with Associated Research Presentations:


Abstracts with Associated Research Presentations:


Invited Research Presentations:


**Zwaans BMM.** A twist to the traditional academic career path. Invited speaker for student career seminar. University of Michigan, Ann Arbor, MI, February 13, 2020.

**Zwaans BMM.** Modeling of long-term side effects from radiation therapy in the bladder. Molecular and Cellular Pathology Annual Symposium, University of Michigan, Ann Arbor, MI, November 6, 2020. Virtual.
UROLOGY

Non-Peer Reviewed Research Publications:


Peer-Reviewed Articles:


Non-Peer Reviewed Research Publications:

DERMATOLOGY

Abstracts with Associated Research Presentations:


Peer Reviewed Articles:


Abstracts with Associated Research Presentations:


Invited Research Presentations:


Abstracts with Associated Research Presentations:

**Peer-Reviewed Articles:**


Peer-Reviewed Articles:


Peer-Reviewed Articles:

Peer Reviewed Articles:


Abstracts with Associated Research Presentations:


Invited Research Presentations:


Saenz R. Don’t let the sun go down on these! American Osteopathic College of Radiology Webinar, May of 2020.
BEAUMONT HOSPITAL
Dearborn, Taylor, Trenton, Wayne
Peer-Reviewed Articles:


Peer-Reviewed Articles:


Peer-Reviewed Articles:

Peer-Reviewed Articles:
Peer-Reviewed Articles:

Peer-Reviewed Articles:

Peer-Reviewed Articles:

Peer-Reviewed Articles:


Peer-Reviewed Articles:


Chitkara A, Saad A. An atypical case of morbid obesity, presenting with deep vein thrombosis and pulmonary embolism. Cureus, 2020 August 11;12(8).


Peer-Reviewed Articles:


Peer-Reviewed Articles:


PHARMACEUTICAL SERVICES

Dearborn, Taylor, Trenton, Wayne

Peer-Reviewed Articles:


Peer-Reviewed Articles:


PODIATRY
Dearborn, Taylor, Trenton, Wayne

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