

# Stanford

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## Brooke Howitt

Associate Professor of Pathology

### CLINICAL OFFICE (PRIMARY)

- **Surgical Pathology**

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### Bio

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#### BIO

Dr. Howitt is a gynecologic and sarcoma pathologist, with academic interests in gynecologic mesenchymal tumors and morphologic and clinical correlates of molecular alterations in gynecologic neoplasia.

#### CLINICAL FOCUS

- Gynecologic Disease
- Endometrial Neoplasms
- Fallopian Tube Neoplasms
- Endometrial Stromal Tumors
- Vulvar Neoplasms
- Adenosarcoma
- Mesonephric Ducts
- Anatomic and Clinical Pathology

#### ACADEMIC APPOINTMENTS

- Associate Professor - University Medical Line, Pathology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

#### PROFESSIONAL EDUCATION

- Fellowship: Brigham and Women's Hospital Dept of Pathology (2014) MA
- Medical Education: Stanford University School of Medicine (2010) CA
- Fellowship, Brigham and Women's Hospital , Women's and Perinatal Pathology (2014)

- Residency: Brigham and Women's Hospital (2013) MA
- Board Certification: Anatomic Pathology, American Board of Pathology (2013)

## Teaching

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### STANFORD ADVISEES

#### Med Scholar Project Advisor

Corrine Nief

#### Doctoral Dissertation Reader (NonAC)

Christine Yiwen Yeh

## Publications

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### PUBLICATIONS

- Scattering-Based Light Sheet Microscopy Imaging of HPV-Associated Squamous Lesions of the Anal Canal: A Proof-of-Principle Study. *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*  
Liang, B., Zhao, J., Kim, Y., Barry-Holson, K. Q., Bingham, D. B., Charville, G. W., Darragh, T. M., Folkins, A. K., Howitt, B. E., Kong, C. S., Longacre, T. A., McHenry, A. J., Toland, et al  
2024: 100493
- From morphology to methylome: epigenetic studies of Müllerian mesonephric-like adenocarcinoma reveal similarities to cervical mesonephric adenocarcinoma†. *The Journal of pathology*  
Lin, L. H., Howitt, B. E., Kolin, D. L.  
2024
- The Malignant Potential of Ovarian Steroid Cell Tumors Revisited: A Multi-institutional Clinicopathologic Analysis of 115 Cases. *The American journal of surgical pathology*  
Fadare, O., Fard, E. V., Bhargava, R., Desouki, M. M., Hanley, K. Z., Ip, P. P., Li, J. J., Lu, B., Medeiros, F., Ng, J. H., Parkash, V., Pinto, A., Quick, et al  
2024
- Vulvar Cancer, Version 3.2024, NCCN Clinical Practice Guidelines in Oncology. *Journal of the National Comprehensive Cancer Network : JNCCN*  
Abu-Rustum, N. R., Yashar, C. M., Arend, R., Barber, E., Bradley, K., Brooks, R., Campos, S. M., Chino, J., Chon, H. S., Crispens, M. A., Damast, S., Fisher, C. M., Frederick, et al  
2024; 22 (2): 117-135
- UCHL1 is a potential molecular indicator and therapeutic target for neuroendocrine carcinomas. *Cell reports. Medicine*  
Liu, S., Chai, T., Garcia-Marques, F., Yin, Q., Hsu, E. C., Shen, M., Shaw Toland, A. M., Bermudez, A., Hartono, A. B., Massey, C. F., Lee, C. S., Zheng, L., Baron, et al  
2024: 101381
- Clinical Features of SARS-CoV-2 Infection During Pregnancy and Associated Placental Pathologies *INTERNATIONAL JOURNAL OF GYNECOLOGICAL PATHOLOGY*  
Ryan, E. E., Brar, N., Allard, G., Wang, A., Winn, V. D., Folkins, A., Yang, E. J., Tan, S., Hazard, F. K., Howitt, B. E.  
2024; 43 (1): 15-24
- Specific Pathology Features Enrich Selection of Endometrial Carcinomas for POLE Testing. *The American journal of surgical pathology*  
Keyhanian, K., Han, L., Howitt, B. E., Longacre, T.  
2023
- SMARCA4 loss irrelevant for ARID1A mutated ovarian clear cell carcinoma: A case report. *Gynecologic oncology reports*  
Wagner, S. K., Moon, A. S., Howitt, B. E., Renz, M.  
2023; 50: 101305
- FIGO 2023 endometrial cancer staging: too much, too soon? *International journal of gynecological cancer : official journal of the International Gynecological Cancer Society*  
McCluggage, W. G., Bosse, T., Gilks, C. B., Howitt, B. E., McAlpine, J. N., Nucci, M. R., Rabban, J. T., Singh, N., Talia, K. L., Parra-Herran, C.

2023

- **Aberrant nuclear #catenin distribution does not prognosticate recurrences of endometrioid endometrial cancers - A retrospective single-institutional study.** *Gynecologic oncology*  
Beshar, I., Moon, A. S., Darji, H., Liu, C., Jennings, M. T., Dorigo, O., Litkouhi, B., Diver, E. J., Karam, A. K., Howitt, B. E., Renz, M.  
2023; 179: 85-90
- **Clinical Behavior and Molecular Landscape of Stage I p53-abnormal Low-Grade Endometrioid Endometrial Carcinomas.** *Clinical cancer research : an official journal of the American Association for Cancer Research*  
Jamieson, A., Vermij, L., Kramer, C. J., Jobsen, J. J., Jürgenliemk-Schulz, I., Lutgens, L., Mens, J. W., Haverkort, M. A., Slot, A., Nout, R. A., Oosting, J., Carlson, J., Howitt, et al  
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- **Does lymph node assessment change the prognostic significance of substantial LVSI and p53 status in endometrial endometrioid carcinoma?** *Gynecologic oncology*  
Hui, C., Mendoza, M. G., von Eyben, R., Dorigo, O., Litkouhi, B., Renz, M., Karam, A., Hammer, P. M., Howitt, B. E., Kidd, E.  
2023; 177: 150-156
- **Nuclear beta-Catenin Expression in the Context of Abnormal p53 Expression Indicates a Nonserous Histotype in Endometrial Carcinoma** *INTERNATIONAL JOURNAL OF GYNECOLOGICAL PATHOLOGY*  
Keyhanian, K., Yang, E. J., Howitt, B. E.  
2023; 42 (5): 435-442
- **Detection of FOXL2 C134W Mutation Status by a Novel BaseScope-ISH Assay is Highly Sensitive and Specific for Adult Granulosa Cell Tumors.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*  
Hammer, P. M., Wang, A., Beard, C., Zdravkovic, S., Tenney, T., Liang, B., Das, I., Bremer, R., Wang, L. C., McCluggage, W. G., Stewart, C. J., Howitt, B. E.  
2023: 100318
- **Adjuvant radiation therapy in early-stage endometrial cancer with abnormal beta-catenin expression is associated with improved local control.** *Gynecologic oncology*  
Hui, C., Mendoza, M. G., Snyder, J., Dorigo, O., Litkouhi, B., Renz, M., Karam, A., Devereaux, K., Howitt, B. E., Kidd, E. A.  
2023; 174: 42-48
- **Genome-Wide DNA Methylation Identifies Distinct Subgroups of Vulvovaginal Mesenchymal Neoplasia**  
Neil, A., Howitt, B., Yu, J., Bennett, J., Pinto, A., Quick, C., Neville, G., Nucci, M., Chapel, D., Heilbronner, L., Wang, A., Yao, Y., Ahmann, et al  
ELSEVIER SCIENCE INC.2023: S960-S961
- **Challenges in Histologic Evaluation of Ovarian Mucinous Neoplasms: A Multi-Institutional Interobserver Study**  
Turashvili, G., Fadare, O., Gutman, D., Howitt, B., Liang, B., Murali, R., Mosunjac, M., Parkash, V., Shahi, M., Quick, C., Hanley, K.  
ELSEVIER SCIENCE INC.2023: S993
- **DNA Methylation Based Classification of Rare Mesenchymal Tumors of the Uterus Identifies Novel Molecular Classes**  
Kommoos, F., Kolin, D., Howitt, B., Parra-Herran, C., Nucci, M., Dickson, B., Lee, J., Agaimy, A., Von Deimling, A., Lee, C.  
ELSEVIER SCIENCE INC.2023: S930-S931
- **Molecular Landscape and Clinical Behavior of Stage I p53-Abnormal Low-Grade Endometrioid Endometrial Carcinomas**  
Vermij, L., Jamieson, A., Carlson, J., Howitt, B., Ip, P., Lax, S., McCluggage, W., Singh, N., McAlpine, J., Nout, R., Creutzberg, C., Horeweg, N., Bosse, et al  
ELSEVIER SCIENCE INC.2023: S995-S996
- **TCGA Molecular Subgroup Shows Greater Prognostic Significance Than Histologic Diagnosis in High-Grade Endometrial Carcinomas with Spindled, Undifferentiated and Sarcomatous Components**  
Hammer, P., Wang, A., Zdravkovic, S., Heilbronner, L., Ryan, E., Mills, A., Jenkins, T., Howitt, B.  
ELSEVIER SCIENCE INC.2023: S913-S914
- **Polarization of Endothelial and Epithelial Cell States Predicts Recurrence in Endometrial Endometrioid Carcinoma**  
Nief, C., Hammer, P., Wang, A., Gentles, A., Howitt, B.  
ELSEVIER SCIENCE INC.2023: S962-S963
- **Molecular Correlates of Invasion Pattern in HPV-Associated Endocervical Adenocarcinoma: Emergence of Two Distinct Risk-Stratified Tiers.** *Histopathology*  
Sharma, A. E., Hodgson, A. J., Howitt, B. E., Olkhov-Mitsel, E., Djordevic, B., Park, K. J., Nucci, M. R., Parra-Herran, C.

2023

- **PTEN Deficiency in Tubo-Ovarian High-Grade Serous Carcinoma is Associated with Poor Progression-Free Survival and is Mutually Exclusive with CCNE1 Amplification.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*  
Zhang, X., Wang, A., Han, L., Liang, B., Allard, G., Diver, E., Howitt, B. E.  
2023; 36 (5): 100106
- **Reply to Comment on HPV-independent, p53-Wild-type Vulvar Intraepithelial Neoplasia: A Review of Nomenclature and the Journey to Characterize Acanthotic Precursor Lesions of the Vulva.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*  
Parra-Herran, C., Nucci, M. R., Singh, N., Rakislova, N., Howitt, B. E., Hoang, L., Gilks, C. B., Bosse, T., Watkins, J. C.  
2023; 36 (2): 100053
- **Reply to Comment on HPV-independent, p53-Wild-type Vulvar Intraepithelial Neoplasia: A Review of Nomenclature and the Journey to Characterize Acanthotic Precursor Lesions of the Vulva MODERN PATHOLOGY**  
Parra-Herran, C., Nucci, M. R., Singh, N., Rakislova, N., Howitt, B. E., Hoang, L., Gilks, C., Bosse, T., Watkins, J. C.  
2023; 36 (2)
- **High-Grade Endometrial Stromal Sarcomas With YWHAE::NUTM2 Gene Fusion Exhibit Recurrent CDKN2A Alterations and Absence of p16 Staining is a Poor Prognostic Marker.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*  
Kommooss, F. K., Mar, L., Howitt, B. E., Hanley, K., Turashvilli, G., Buslei, R., Irving, J. A., Dickson, B. C., Koelsche, C., Sinn, H., Schirmacher, P., von Deimling, A., Chiang, et al  
2023; 36 (3): 100044
- **NCCN Guidelines Insights: Cervical Cancer, Version 1.2024.** *Journal of the National Comprehensive Cancer Network : JNCCN*  
Abu-Rustum, N. R., Yashar, C. M., Arend, R., Barber, E., Bradley, K., Brooks, R., Campos, S. M., Chino, J., Chon, H. S., Crispens, M. A., Damast, S., Fisher, C. M., Frederick, et al  
2023; 21 (12): 1224-1233
- **Uterine Neoplasms, Version 1.2023, NCCN Clinical Practice Guidelines in Oncology.** *Journal of the National Comprehensive Cancer Network : JNCCN*  
Abu-Rustum, N., Yashar, C., Arend, R., Barber, E., Bradley, K., Brooks, R., Campos, S. M., Chino, J., Chon, H. S., Chu, C., Crispens, M. A., Damast, S., Fisher, et al  
2023; 21 (2): 181-209
- **ABERRANT BETA-CATENIN DISTRIBUTION AS POTENTIAL PROGNOSTIC BIOMARKER IN ENDOMETRIAL CANCER**  
Moon, A. S., Beshar, I., Jennings, K. J., Howitt, B., Renz, M.  
BMJ PUBLISHING GROUP.2022: A103
- **LOW-GRADE P53ABN ENDOMETRIAL CARCINOMAS EXIST AND ARE ASSOCIATED WITH A HIGH RISK OF RECURRENT, EVEN IN LOW-STAGE DISEASE**  
Jamieson, A., Vermij, L., Carlson, J., Howitt, B., Ip, P., Lax, S., Mccluggage, G., Singh, N., Mcalpine, J., Nout, R., Creutzberg, C., Gilks, B., Horeweg, et al  
BMJ PUBLISHING GROUP.2022: A94-A95
- **PREDICTING RESPONSE TO PLATINUM-BASED CHEMOTHERAPY FOR TUBO-OVARIAN HIGHGRADE SEROUS CARCINOMA USING AN ARTIFICIAL INTELLIGENCE HISTOPATHOLOGY PLATFORM**  
Tiu, E., Krishna, V., Nimgaonkar, V., Krishnan, R., Bhambhani, H., O'Donoghue, O., Vrabac, D., Joshi, A., Liang, B., Zhang, X., Han, L., Wang, A., Krishna, et al  
BMJ PUBLISHING GROUP.2022: A46-A47
- **ASSESSING ROBUSTNESS OF AN ARTIFICIAL INTELLIGENCE DERIVED HISTOLOGICAL BIOMARKER ACROSS DIFFERENT SITES OF DISEASE AND IN SERIAL SECTIONS IN TUBOOVARIAN HIGH-GRADE SEROUS CARCINOMA**  
Krishnan, R., Tiu, E., Krishna, V., Nimgaonkar, V., Bhambhani, H., O'Donoghue, O., Vrabac, D., Joshi, A., Liang, B., Zhang, X., Han, L., Wang, A., Krishna, et al  
BMJ PUBLISHING GROUP.2022: A45-A46
- **DNA methylation-based classification of sinonasal tumors.** *Nature communications*  
Jurmester, P., Glöß, S., Roller, R., Leitheiser, M., Schmid, S., Mochmann, L. H., Payá Capilla, E., Fritz, R., Dittmayer, C., Friedrich, C., Thieme, A., Keyl, P., Jarosch, et al  
2022; 13 (1): 7148
- **Data Set for the Reporting of Carcinomas of the Vulva: Recommendations From the International Collaboration on Cancer Reporting (ICCR) INTERNATIONAL JOURNAL OF GYNECOLOGICAL PATHOLOGY**  
Hoang, L., Webster, F., Bosse, T., Focchi, G., Gilks, C., Howitt, B. E., McAlpine, J. N., Ordi, J., Singh, N., Wong, R., Lax, S. F., McCluggage, W.

2022; 41: S8-S22

- **Data Set for the Reporting of Carcinomas of the Vagina: Recommendations From the International Collaboration on Cancer Reporting (ICCR) INTERNATIONAL JOURNAL OF GYNECOLOGICAL PATHOLOGY**  
Wong, R., Webster, F., Bosse, T., Focchi, G., Gilks, C., Hoang, L., Howitt, B. E., McAlpine, J., Ordi, J., Singh, N., Lax, S. F., McCluggage, W.  
2022; 41: S23-S33
- **Data Set for Reporting of Uterine Malignant and Potentially Malignant Mesenchymal Tumors: Recommendations From the International Collaboration on Cancer Reporting (ICCR) INTERNATIONAL JOURNAL OF GYNECOLOGICAL PATHOLOGY**  
Nucci, M. R., Webster, F., Croce, S., George, S., Howitt, B. E., Ip, P. C., Lee, C., Rabban, J. T., Soslow, R. A., van der Griend, R., Lax, S. F., McCluggage, W.  
2022; 41: S44-S63
- **Mismatch Repair and Microsatellite Instability Testing for Immune Checkpoint Inhibitor Therapy.** *Archives of pathology & laboratory medicine*  
Bartley, A. N., Mills, A. M., Konnick, E., Overman, M., Ventura, C. B., Souter, L., Colasacco, C., Stadler, Z. K., Kerr, S., Howitt, B. E., Hampel, H., Adams, S. F., Johnson, et al  
2022
- **Technetium Tc 99m tilmanocept fails to detect sentinel lymph nodes in endometrial cancer.** *Gynecologic oncology reports*  
Reddy, R. A., Moon, A. S., Chow, S., Heilbronner, L., Howitt, B., Diver, E., Dorigo, O., Litkouhi, B., Renz, M., Karam, A.  
2022; 43: 101054
- **A Subset of SMARCB1 (INI-1) Deficient Vulvar Neoplasms Express Germ Cell Markers.** *Histopathology*  
Hammer, P. M., Kolin, D. L., Charville, G. W., McCluggage, W. G., Howitt, B. E.  
2022
- **Single-cell multi-omic profiling and clonal tracing of the human gynecological tumor microenvironment**  
Liu, V., Sandor, K., Daniel, B., Berthoin, L., Sabri, S., Panagiotopoulou, S., Yin, Y., Hiam-Galvez, K., Sit, R., Fan, Z., Galvin, B., Khan, O., Bezman, et al  
AMER ASSOC CANCER RESEARCH.2022
- **GRM1 Immunohistochemistry Distinguishes Chondromyxoid Fibroma From its Histologic Mimics.** *The American journal of surgical pathology*  
Toland, A. M., Lam, S. W., Varma, S., Wang, A., Howitt, B. E., Kunder, C. A., Kerr, D. A., Szuhai, K., Bovée, J. V., Charville, G. W.  
2022
- **HPV-independent, p53-wild-type vulvar intraepithelial neoplasia: a review of nomenclature and the journey to characterize verruciform and acanthotic precursor lesions of the vulva.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*  
Parra-Herran, C., Nucci, M. R., Singh, N., Rakislova, N., Howitt, B. E., Hoang, L., Gilks, C. B., Bosse, T., Watkins, J. C.  
2022
- **Classification of Uterine Mesenchymal Neoplasms by Deep Learning Algorithms**  
Storozuk, T., Zhu, A., Kochanny, S., Dolezal, J., Chapel, D., Howitt, B., Kolin, D., Neville, G., Nucci, M., Oliva, E., Ordulu, Z., Pinto, A., Rabban, et al  
SPRINGERNATURE.2022: 832-833
- **A Subset of SMARCB1 (INI-1) Deficient Vulvar Neoplasms are Positive for Germ Cell Markers**  
Hammer, P., McCluggage, W., Kolin, D., Howitt, B.  
SPRINGERNATURE.2022: 755-756
- **PTEN Loss in High-Grade Serous Carcinomas is Associated with Reduced Expression of Hormonal Receptors and Poor Progression-Free Survival, and Mutually Exclusive with CCNE1 Amplification**  
Zhang, X., Han, L., Liang, B., Wang, A., Howitt, B.  
SPRINGERNATURE.2022: 856-858
- **MMR, PD-L1, and MHC Class I and Response to Checkpoint Inhibitor Therapy in Endometrial Carcinomas**  
Makia, N., Howitt, B., Gaughan, E., Ring, K., Mills, A.  
SPRINGERNATURE.2022: 794-795
- **SMARCA4-Deficient Uterine Sarcoma Harbor a Specific DNA Methylation Profile Distinct from Undifferentiated Endometrial Carcinoma and Other SWI/SNF-Deficient Tumors**  
Komoss, F., Tessier-Cloutier, B., Koelsche, C., Koebel, M., Lee, C., Kolin, D., von Deimling, A., Howitt, B.  
SPRINGERNATURE.2022: 780-781
- **Classification of Uterine Mesenchymal Neoplasms by Deep Learning Algorithms**

Storozuk, T., Zhu, A., Kochanny, S., Dolezal, J., Chapel, D., Howitt, B., Kolin, D., Neville, G., Nucci, M., Oliva, E., Ordulu, Z., Pinto, A., Rabban, et al  
SPRINGERNATURE.2022: 832-833

- **Immunohistochemical Screening for Mesonephric-like Endometrial Carcinoma: Morphologic and Molecular Features of Screen-Positive Cases**  
Mills, A., Jenkins, T., Howitt, B., Fan, J., Ring, K., Cook, I.  
SPRINGERNATURE.2022: 802-803

- **Molecular Correlates of Invasion Pattern in HPV-Associated Endocervical Adenocarcinoma: Emergence of Two Distinct Risk-Stratified Tiers**  
Sharma, A., Hodgson, A., Howitt, B., Djordjevic, B., Park, K., Nucci, M., Parra-Herran, C.  
SPRINGERNATURE.2022: 826-827

- **SDHB knockout and succinate accumulation are insufficient for tumorigenesis but dual SDHB/NF1 loss yields SDHx-like pheochromocytomas.** *Cell reports*  
Armstrong, N., Storey, C. M., Noll, S. E., Margulis, K., Soe, M. H., Xu, H., Yeh, B., Fishbein, L., Kebebew, E., Howitt, B. E., Zare, R. N., Sage, J., Annes, et al  
2022; 38 (9): 110453

- **Selection of Endometrial Carcinomas For POLE Testing: Specificity Analysis of Morphologic Features**  
Keyhanian, K., Han, L., Howitt, B., Longacre, T.  
SPRINGERNATURE.2022: 774-776

- **Molecular Correlates of Invasion Pattern in HPV-Associated Endocervical Adenocarcinoma: Emergence of Two Distinct Risk-Stratified Tiers**  
Sharma, A., Hodgson, A., Howitt, B., Djordjevic, B., Park, K., Nucci, M., Parra-Herran, C.  
SPRINGERNATURE.2022: 826-827

- **Selection of Endometrial Carcinomas For POLE Testing: Specificity Analysis of Morphologic Features**  
Keyhanian, K., Han, L., Howitt, B., Longacre, T.  
SPRINGERNATURE.2022: 774-776

- **Succinate Accumulation Is Not Sufficient for Tumorigenesis in Mouse Chromaffin Cells But Dual Loss of SDHB and NF1 Yields SDHx-Like Pheochromocytomas**  
Armstrong, N., Storey, C. M., Noll, S. E., Margulis, K., Soe, M. H., Xu, H., Yeh, B., Fishbein, L., Kebebew, E., Howitt, B. E., Zare, R. N., Sage, J., Annes, et al  
LIPPINCOTT WILLIAMS & WILKINS.2022: E32-E33

- **Immunohistochemical Screening for Mesonephric-like Endometrial Carcinoma: Morphologic and Molecular Features of Screen-Positive Cases**  
Mills, A., Jenkins, T., Howitt, B., Fan, J., Ring, K., Cook, I.  
SPRINGERNATURE.2022: 802-803

- **A Subset of SMARCB1 (INI-1) Deficient Vulvar Neoplasms are Positive for Germ Cell Markers**  
Hammer, P., McCluggage, W., Kolin, D., Howitt, B.  
SPRINGERNATURE.2022: 755-756

- **PTEN Loss in High-Grade Serous Carcinomas is Associated with Reduced Expression of Hormonal Receptors and Poor Progression-Free Survival, and Mutually Exclusive with CCNE1 Amplification**  
Zhang, X., Han, L., Liang, B., Wang, A., Howitt, B.  
SPRINGERNATURE.2022: 856-858

- **MMR, PD-L1, and MHC Class I and Response to Checkpoint Inhibitor Therapy in Endometrial Carcinomas**  
Makia, N., Howitt, B., Gaughan, E., Ring, K., Mills, A.  
SPRINGERNATURE.2022: 794-795

- **SMARCA4-Deficient Uterine Sarcoma Harbor a Specific DNA Methylation Profile Distinct from Undifferentiated Endometrial Carcinoma and Other SWI/SNF-Deficient Tumors**  
Kommooss, F., Tessier-Cloutier, B., Koelsche, C., Koebel, M., Lee, C., Kolin, D., von Deimling, A., Howitt, B.  
SPRINGERNATURE.2022: 780-781

- **Cellular context determines DNA methylation profiles in SWI/SNF-deficient cancers of the gynecologic tract.** *The Journal of pathology*  
Kommooss, F. K., Tessier-Cloutier, B., Witkowski, L., Forgo, E., Koelsche, C., Kobel, M., Foulkes, W. D., Lee, C., Kolin, D. L., von Deimling, A., Howitt, B. E.  
2022

- **Mesonephric-like Endometrial Carcinoma: Results From Immunohistochemical Screening of 300 Endometrial Carcinomas and Carcinosarcomas for This Often Overlooked and Potentially Aggressive Entity.** *The American journal of surgical pathology*

Mills, A. M., Jenkins, T. M., Howitt, B. L., Fan, J., Ring, K. L., Cook, I.

2022

- **A Multiplex SNaPshot Assay is a Rapid and Cost-Effective Method for Detecting POLE Exonuclease Domain Mutations in Endometrial Carcinoma.** *International journal of gynecological pathology : official journal of the International Society of Gynecological Pathologists*

Devereaux, K. A., Steiner, D. F., Ho, C., Gomez, A. J., Gilks, B., Longacre, T. A., Zehnder, J. L., Howitt, B. E., Suarez, C. J.

1800

- **Intravascular adenomyomatosis: a morphologic variant of intravenous leiomyomatosis associated with endometriosis and potential for misdiagnosis.** *Human pathology*

Fitzpatrick, M. B., Hammer, P. M., Yang, E. J., Howitt, B. E.

2021

- **Atypical uterine polyps show morphologic and molecular overlap with mullerian adenosarcoma but follow a benign clinical course.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*

Chapel, D. B., Howitt, B. E., Sholl, L. M., Dal Cin, P., Nucci, M. R.

2021

- **MicroRNA profiling in a case-control study of African American women with uterine serous carcinoma.** *Gynecologic oncology*

Lee, L., Howitt, B., Cheng, T., King, M., Stawiski, K., Fendler, W., Chowdhury, D., Matulonis, U., Konstantinopoulos, P. A.

2021

- **High-grade serous ovarian tumor cells modulate NK cell function to create an immune-tolerant microenvironment.** *Cell reports*

Gonzalez, V. D., Huang, Y., Delgado-Gonzalez, A., Chen, S., Donoso, K., Sachs, K., Gentles, A. J., Allard, G. M., Kolahi, K. S., Howitt, B. E., Porpiglia, E., Fantl, W. J.

2021; 36 (9): 109632

- **Nuclear Beta-Catenin Expression in the Context of Abnormal p53 Endometrial Carcinoma Indicates a Non-Serous Histotype**

Keyhanian, K., Yang, E., Howitt, B.

SPRINGERNATURE.2021: 704–5

- **Clinical Features of SARS-CoV-2 Infection During Pregnancy and Associated Placental Pathologies**

Brar, N., Ryan, E., Winn, V., Folkins, A., Howitt, B.

SPRINGERNATURE.2021: 656–57

- **Atypical Uterine Polyps Are Molecularly Heterogeneous and Share Genomic Features with Uterine Adenosarcoma and Banal Endometrial Polyps**

Chapel, D., Da Silva, A., Sholl, L., Howitt, B., Dal Cin, P., Nucci, M.

SPRINGERNATURE.2021: 663–64

- **Molecular Classification of Endometrial Carcinomas with Long-Term Follow-up**

Hammer, P., Albro, J., Squires, C., Peters-Schulze, G., Sharp, B., Charu, V., Cessna, M., Howitt, B.

SPRINGERNATURE.2021: 691–93

- **Nuclear Beta-Catenin Expression in the Context of Abnormal p53 Endometrial Carcinoma Indicates a Non-Serous Histotype**

Keyhanian, K., Yang, E., Howitt, B.

SPRINGERNATURE.2021: 704–5

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