

Stanford



Hayden Schwenk

Clinical Associate Professor, Pediatrics - Infectious Diseases

CLINICAL OFFICE (PRIMARY)

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Bio

CLINICAL FOCUS

- Pediatric Infectious Diseases

ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Pediatrics - Infectious Diseases
- Member, Maternal & Child Health Research Institute (MCHRI)

PROFESSIONAL EDUCATION

- Board Certification: Pediatric Infectious Diseases, American Board of Pediatrics (2013)
- MPH, Harvard School of Public Health , Clinical Effectiveness (2013)
- Board Certification, Pediatric Infectious Diseases , American Board of Pediatrics (2013)
- Fellowship: Boston Children's Hospital (2013) MA
- Board Certification: Pediatrics, American Board of Pediatrics (2009)
- Residency: Lucile Packard Children's Hospital (2009) CA
- Medical Education: University of Texas Southwestern Medical Center (2006) TX

LINKS

- LPCH Stanford Antimicrobial Stewardship Program Website: <https://www.stanfordchildrens.org/en/for-health-professionals/antimicrobial-stewardship-program>

Publications

PUBLICATIONS

- **Dynamics and prognostic value of plasma cell-free DNA PCR in patients with invasive aspergillosis and mucormycosis.** *Journal of clinical microbiology* Moreno, A., Mah, J., Budvytiene, I., Ho, D. Y., Schwenk, H. T., Banaei, N. 2024: e0039424

- **Guidance for prevention and management of COVID-19 in children and adolescents: A consensus statement from the Pediatric Infectious Diseases Society Pediatric COVID-19 Therapies Taskforce.** *Journal of the Pediatric Infectious Diseases Society*
Willis, Z. I., Oliveira, C. R., Abzug, M. J., Anosike, B. I., Ardura, M. I., Bio, L. L., Boguniewicz, J., Chiotos, K., Downes, K., Grapentine, S. P., Hersh, A. L., Heston, S. M., Hijano, et al
2024
- **Vaccine Effectiveness Against Long COVID in Children.** *Pediatrics*
Razzaghi, H., Forrest, C. B., Hirabayashi, K., Wu, Q., Allen, A., Rao, S., Chen, Y., Bunnell, H. T., Chrischilles, E. A., Cowell, L. G., Cummins, M. R., Hanauer, D. A., Higginbotham, et al
2024
- **Real-World Effectiveness of BNT162b2 Against Infection and Severe Diseases in Children and Adolescents.** *Annals of internal medicine*
Wu, Q., Tong, J., Zhang, B., Zhang, D., Chen, J., Lei, Y., Lu, Y., Wang, Y., Li, L., Shen, Y., Xu, J., Bailey, L. C., Bian, et al
2024
- **Suboptimal antimicrobial discharge prescriptions at a tertiary referral children's hospital.** *Antimicrobial stewardship & healthcare epidemiology : ASHE*
Zhang, Y. W., Paturi, S., Puckett, L. M., Scheinker, D., Schwenk, H. T., Joerger, T. A.
2023; 3 (1): e223
- **Successful enteral administration of crushed posaconazole delayed-release tablets in children.** *Pediatric blood & cancer*
Bio, L. L., Hiroshima, L., Schwenk, H. T., Green, S.
2023: e30782
- **Real-world Effectiveness of BNT162b2 Against Infection and Severe Diseases in Children and Adolescents.** *medRxiv : the preprint server for health sciences*
Wu, Q., Tong, J., Zhang, B., Zhang, D., Chen, J., Lei, Y., Lu, Y., Wang, Y., Li, L., Shen, Y., Xu, J., Bailey, L. C., Bian, et al
2023
- **Indication-driven order entry decreases stewardship and pharmacist interventions.** *Infection control and hospital epidemiology*
Nishiguchi, J. L., Bio, L. L., Cornell, S. T., Schwenk, H. T.
2023: 1-3
- **Impact of Model-Informed Precision Dosing on Achievement of Vancomycin Exposure Targets in Pediatric Patients with Cystic Fibrosis.** *Pharmacotherapy*
Frymoyer, A., Schwenk, H. T., Brockmeyer, J. M., Bio, L.
2023
- **Antifungal stewardship in practice: Insights from a prospective audit and feedback program.** *Infection control and hospital epidemiology*
Bio, L. L., Weng, Y., Schwenk, H. T.
2023: 1-5
- **Benchmarking of Outpatient Pediatric Antibiotic Prescribing: Results of a Multicenter Collaborative** *JOURNAL OF THE PEDIATRIC INFECTIOUS DISEASES SOCIETY*
El Feghaly, R. E., Herigon, J. C., Kronman, M. P., Wattles, B. A., Poole, N. M., Smith, M. J., Vaughan, A. M., Olivero, R., Patel, S. J., Wirtz, A., Willis, Z., Lee, B. R.
2023: 364-371
- **Respiratory Failure in an 11-day-old Neonate.** *NeoReviews*
Aiden, A. P., Khan, A., Schwenk, H., Fuerch, J. H.
2023; 24 (1): 36-38
- **Characteristics of antifungal utilization for hospitalized children in the United States.** *Antimicrobial stewardship & healthcare epidemiology : ASHE*
Eguiguren, L., Lee, B. R., Newland, J. G., Kronman, M. P., Hersh, A. L., Gerber, J. S., Lee, G. M., Schwenk, H. T.
2022; 2 (1): e190
- **Near-fatal Legionella pneumonia in a neonate linked to home humidifier by metagenomic next generation sequencing.** *Med (New York, N.Y.)*
West, P. T., Brooks, E. F., Costales, C., Moreno, A., Jensen, T. D., Budvytiene, I., Khan, A., Pham, T. H., Schwenk, H. T., Bhatt, A. S., Banaei, N.
2022
- **Association of Diagnostic Stewardship for Blood Cultures in Critically Ill Children With Culture Rates, Antibiotic Use, and Patient Outcomes: Results of the Bright STAR Collaborative.** *JAMA pediatrics*

Woods-Hill, C. Z., Colantuoni, E. A., Koontz, D. W., Voskertchian, A., Xie, A., Thurm, C., Miller, M. R., Fackler, J. C., Milstone, A. M., Bright STAR Authorship Group, Agulnik, A., Albert, J. E., Auth, M. J., et al
2022

- **Updated Guidance on Use and Prioritization of Monoclonal Antibody Therapy for Treatment of COVID-19 in Adolescents.** *Journal of the Pediatric Infectious Diseases Society*
Wolf, J., Abzug, M. J., Anosike, B. I., Vora, S. B., Waghmare, A., Sue, P. K., Olivero, R. M., Oliveira, C. R., James, S. H., Morton, T. H., Maron, G. M., Young, J. L., Orscheln, et al
1800
- **Hidden No More: Capturing the Full Picture of Prolonged Perioperative Antibiotic Prophylaxis.** *Hospital pediatrics*
Schwenk, H. T., Bio, L. L.
1800
- **Leveraging antimicrobial stewardship programs in response to the coronavirus disease 2019 (COVID-19) public health emergency** *Antimicrobial Stewardship & Healthcare Epidemiology*
Joerger, T. A., Bio, L., Puckett, L., Schwenk, H.
2022; 2 (1)
- **A National Survey of Outpatient Parenteral Antibiotic Therapy Practices.** *Journal of the Pediatric Infectious Diseases Society*
Vaz, L. E., Felder, K. K., Newland, J. G., Hersh, A. L., Rajapakse, N. S., Willis, Z. I., Banerjee, R., Gerber, J. S., Schwenk, H. T., Wang, M. E.
1800
- **Recent advances in Clostridioides difficile infection epidemiology, diagnosis and treatment in children.** *Current opinion in infectious diseases*
Kocolek, L. K., Crews, J. D., Schwenk, H. T.
2021
- **Antibiotic Stewardship for the Neonatologist and Perinatologist.** *Clinics in perinatology*
Katz, S., Banerjee, R., Schwenk, H.
2021; 48 (2): 379-391
- **Toxoplasmosis in Pediatric Hematopoietic Stem Cell Transplantation Patients.** *Transplantation and cellular therapy*
Schwenk, H. T., Khan, A., Kohlman, K., Bertaina, A., Cho, S., Montoya, J. G., Contopoulos-Ioannidis, D. G.
2021; 27 (4): 292–300
- **Response to Trimethoprim-Sulfamethoxazole in a Pediatric Hematopoietic Stem Cell Transplant Recipient With Disseminated Toxoplasmosis: A Case Report.** *Journal of the Pediatric Infectious Diseases Society*
Khan, A., Schwenk, H. T., Kohlman, K., Bertaina, A., Cho, S., Montoya, J. G., Contopoulos-Ioannidis, D.
2021
- **Toxoplasmosis Among 38,751 Hematopoietic Stem Cell Transplant Recipients: A Systematic Review of Disease Prevalence and a Compilation of Imaging and Autopsy Findings.** *Transplantation*
Contopoulos-Ioannidis, D. G., Cho, S. M., Bertaina, A., Leung, A. N., Fischbein, N., Lanzman, B., Schwenk, H. T., Montoya, J. G.
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- **Initial Guidance on Use of Monoclonal Antibody Therapy for Treatment of COVID-19 in Children and Adolescents.** *Journal of the Pediatric Infectious Diseases Society*
Wolf, J. n., Abzug, M. J., Wattier, R. L., Sue, P. K., Vora, S. B., Zachariah, P. n., Dulek, D. E., Waghmare, A. n., Olivero, R. n., Downes, K. J., James, S. H., Pinninti, S. G., Yarbrough, et al
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- **Pediatric Clostridioides difficile Infection: Diagnosis and Diagnostic Stewardship.** *Journal of the Pediatric Infectious Diseases Society*
Schwenk, H. T., Pollock, N. R., Vaughan-Malloy, A. M.
2021; 10 (Supplement_3): S16-S21
- **Pediatric antimicrobial stewardship practices at discharge: A national survey** *Infection Control & Hospital Epidemiology*
Wang, M. E., Felder, K., Newland, J. G., Hersh, A. L., Rajapakse, N. S., Willis, Z. I., Banerjee, R., Gerber, J. S., Schwenk, H. T., Vaz, L. E.
2021: 1-3
- **Clinical Accuracy and Impact of Plasma Cell-Free DNA Fungal PCR Panel for Non-Invasive Diagnosis of Fungal Infection.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*

Senchyna, F. n., Hogan, C. A., Murugesan, K. n., Moreno, A. n., Ho, D. Y., Subramanian, A. n., Schwenk, H. T., Budvytiene, I. n., Costa, H. A., Gombar, S. n., Banaei, N. n.
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● **Standardization of Post-operative Antimicrobials Reduced Exposure While Maintaining Good Outcomes in Pediatric Liver Transplant Recipients.** *Transplant infectious disease : an official journal of the Transplantation Society*

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● **Use of Prospective Audit and Feedback to Reduce Antibiotic Exposure in a Pediatric Cardiac ICU.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*

Schwenk, H. T., Kruger, J. F., Sacks, L. D., Wood, M. S., Qureshi, L., Bio, L. L.
2020

● **The current state of antifungal stewardship among pediatric antimicrobial stewardship programs.** *Infection control and hospital epidemiology*

Eguiguren, L., Newland, J. G., Kronman, M. P., Hersh, A. L., Gerber, J. S., Lee, G. M., Schwenk, H. T.
2020: 1–6

● **Inpatient Observation After Transition From Intravenous to Oral Antibiotics.** *Hospital pediatrics*

Stromberg, T. L., Robison, A. D., Kruger, J. F., Bentley, J. P., Schwenk, H. T.
2020

● **Reporting and Categorization of Blood Culture Contaminants in Infants and Young Children: A Scoping Review** *JOURNAL OF THE PEDIATRIC INFECTIOUS DISEASES SOCIETY*

Chappell-Campbell, L., Schwenk, H. T., Capdarest-Arest, N., Schroeder, A. R.
2020; 9 (2): 110–17

● **Clinical Impact of Clostridium difficile PCR Cycle Threshold-Predicted Toxin Reporting in Pediatric Patients** *JOURNAL OF THE PEDIATRIC INFECTIOUS DISEASES SOCIETY*

Schwenk, H. T., Bio, L. L., Kruger, J. F., Banaei, N.
2020; 9 (1): 44–50

● **A 10-Month-Old Female With Complicated Mastoiditis Due to Fusobacterium necrophorum: A Case Report and Literature Review.** *Journal of the Pediatric Infectious Diseases Society*

Rosenthal, A. n., Gans, H. n., Schwenk, H. T.
2020

● **Multicenter initial guidance on use of antivirals for children with COVID-19/SARS-CoV-2.** *Journal of the Pediatric Infectious Diseases Society*

Chiotos, K. n., Hayes, M. n., Kimberlin, D. W., Jones, S. B., James, S. H., Pinninti, S. G., Yarbrough, A. n., Abzug, M. J., MacBrayne, C. E., Soma, V. L., Dulek, D. E., Vora, S. B., Waghmare, et al
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● **Multicenter interim guidance on use of antivirals for children with COVID-19/SARS-CoV-2.** *Journal of the Pediatric Infectious Diseases Society*

Chiotos, K. n., Hayes, M. n., Kimberlin, D. W., Jones, S. B., James, S. H., Pinninti, S. G., Yarbrough, A. n., Abzug, M. J., MacBrayne, C. E., Soma, V. L., Dulek, D. E., Vora, S. B., Waghmare, et al
2020

● **Model-Informed Precision Dosing of Vancomycin in Hospitalized Children: Implementation and Adoption at an Academic Children's Hospital.** *Frontiers in pharmacology*

Frymoyer, A. n., Schwenk, H. T., Zorn, Y. n., Bio, L. n., Moss, J. D., Chasmawala, B. n., Faulkenberry, J. n., Goswami, S. n., Keizer, R. J., Ghaskari, S. n.
2020; 11: 551

● **Reducing Piperacillin and Tazobactam Use for Pediatric Perforated Appendicitis.** *The Journal of surgical research*

Seddik, T. B., Rabsatt, L. A., Mueller, C. n., Bassett, H. K., Contopoulos-Ioannidis, D. n., Bio, L. L., Anderson, V. D., Schwenk, H. T.
2020; 260: 141–48

● **A multifaceted quality improvement project improves intraoperative redosing of surgical antimicrobial prophylaxis during pediatric surgery** *PEDIATRIC ANESTHESIA*

Colletti, A. A., Wang, E., Marquez, J. L., Schwenk, H. T., Yeverino, C., Sharek, P. J., Caruso, T. J.
2019; 29 (7): 705–11

- **Dipylidium caninum Infection.** *The New England journal of medicine*
Hogan, C. A., Schwenk, H.
2019; 380 (21): e39
- **A multifaceted quality improvement project improves intraoperative redosing of surgical antimicrobial prophylaxis during pediatric surgery.** *Paediatric anaesthesia*
Colletti, A. A., Wang, E. n., Marquez, J. L., Schwenk, H. T., Yeverino, C. n., Sharek, P. J., Caruso, T. J.
2019
- **Reporting and Categorization of Blood Culture Contaminants in Infants and Young Children: A Scoping Review.** *Journal of the Pediatric Infectious Diseases Society*
Chappell-Campbell, L., Schwenk, H. T., Capdarest-Arest, N., Schroeder, A. R.
2018
- **Clinical Impact of Clostridium difficile PCR Cycle Threshold-Predicted Toxin Reporting in Pediatric Patients.** *Journal of the Pediatric Infectious Diseases Society*
Schwenk, H. T., Bio, L. L., Kruger, J. F., Banaei, N.
2018
- **Liver Failure and Rash in a 6-week-old Girl** *PEDIATRICS IN REVIEW*
Mediratta, R., Schwenk, H., Rao, A., Chitkara, R.
2018; 39 (6): 315–U22
- **Predictors of Antimicrobial Stewardship Program Recommendation Disagreement.** *Infection control and hospital epidemiology*
Bio, L. L., Kruger, J. F., Lee, B. P., Wood, M. S., Schwenk, H. T.
2018: 1–8
- **IMPLEMENTATION OF A VANCOMYCIN MODEL-BASED DOSING TOOL INTEGRATED WITHIN THE ELECTRONIC HEALTH RECORD.**
Goswami, S., Keizer, R., Ghaskari, S., Schneider, L., Faulkenberry, J. H., Chasmawala, B., Schwenk, H. T., Frymoyer, A.
WILEY.2018: S68
- **An Observational Study of Severe Pertussis in 100 Infants 120 Days of Age** *PEDIATRIC INFECTIOUS DISEASE JOURNAL*
Cherry, J. D., Wendorf, K., Bregman, B., Lehman, D., Nieves, D., Bradley, J. S., Mason, W. H., Sande-Lopez, L., Lopez, M., Federman, M., Chen, T., Blumberg, D., Johnston, et al
2018; 37 (3): 202–5
- **A Postoperative Care Bundle Reduces Surgical Site Infections in Pediatric Patients Undergoing Cardiac Surgeries.** *Joint Commission journal on quality and patient safety*
Caruso, T. J., Wang, E. Y., Schwenk, H. n., Marquez, J. L., Cahn, J. n., Loh, L. n., Schaffer, J. n., Chen, K. n., Wood, M. n., Sharek, P. J.
2018
- **A quality improvement initiative to optimize dosing of surgical antimicrobial prophylaxis.** *Paediatric anaesthesia*
Caruso, T. J., Wang, E., Schwenk, H. T., Scheinker, D., Yeverino, C., Tweedy, M., Maheru, M., Sharek, P. J.
2017; 27 (7): 702-710
- **Subacute Sclerosing Panencephalitis: The Foothold in Undervaccination** *JOURNAL OF PEDIATRICS*
Holt, R. L., Kann, D., Rassbach, C. E., Schwenk, H. T., Ritter, J. M., Rota, P. A., Elbers, J.
2016; 179: 259-262
- **Anchoring Bias as a Limiting Factor in High-Value Care: A Case of Fever of Unknown Origin in a Hospitalized Child.** *Hospital pediatrics*
Festa, N., Park, K. T., Schwenk, H.
2016; 6 (11): 699-701
- **Fever and Renal Failure in a Child With DiGeorge Syndrome and Tetralogy of Fallot.** *Journal of the Pediatric Infectious Diseases Society*
Itoh, M., Kann, D. C., Schwenk, H. T., Gans, H. A.
2015; 4 (4): 373-375
- **Bordetella petrii Sinusitis in an Immunocompromised Adolescent.** *Pediatric infectious disease journal*
Nagata, J. M., Charville, G. W., Klotz, J. M., Wickremasinghe, W. R., Kann, D. C., Schwenk, H. T., Longhurst, C. A.
2015; 34 (4): 458-?

- **Coping with college and inflammatory bowel disease: implications for clinical guidance and support.** *Inflammatory bowel diseases*
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2014; 20 (9): 1618-1627
- **Progressive multifocal leukoencephalopathy in pediatric patients: case report and literature review.** *Pediatric infectious disease journal*
Schwenk, H., Ramirez-Avila, L., Sheu, S., Wuthrich, C., Waugh, J., Was, A., DeGirolami, U., Burchett, S., Koralnik, I. J., Ahmed, A.
2014; 33 (4): e99-105
- **Progressive multifocal leukoencephalopathy in pediatric patients: case report and literature review.** *Pediatric infectious disease journal*
Schwenk, H., Ramirez-Avila, L., Sheu, S., Wuthrich, C., Waugh, J., Was, A., DeGirolami, U., Burchett, S., Koralnik, I. J., Ahmed, A.
2014; 33 (4): e99-e105
- **Vancomycin Use for Pediatric Clostridium difficile Infection Is Increasing and Associated with Specific Patient Characteristics** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
Schwenk, H. T., Graham, D. A., Sharma, T. S., Sandora, T. J.
2013; 57 (9): 4307-4313