



## **CURRICULUM VITAE**

**NAME: Michael Lloyd Towns, M.D.**

**ADDRESS: BD Diagnostic Systems  
7 Loveton Circle  
Sparks, MD 21152**

**Phone: (410) 316-4310**

**Fax: (410) 316-4041**

**e-mail: [Michael.Towns@bd.com](mailto:Michael.Towns@bd.com)**

## **EDUCATION:**

██████████ **Medical Microbiology Fellowship  
Duke University Medical Center  
Durham, North Carolina**

██████████ **Infectious Disease Fellowship  
Duke University Medical Center  
Durham, North Carolina**

██████████ **Internal Medicine Residency  
Duke University Medical Center  
Durham, North Carolina**

██████████ **Emory University School of Medicine M.D.  
Atlanta, Georgia**

██████████ **Emory University M.M.Sc. (Clinical Microbiology)  
Atlanta, Georgia**

██████████ **Texas Tech University B.S. (Microbiology)  
Lubbock, Texas**

**EXPERIENCE:**

- 10/02-**            **WW Vice President, Medical Affairs**  
**BD Diagnostic Systems**
- 10/01- 9/02**      **Worldwide Medical Director**  
**BD Diagnostic Systems**  
**Sparks, MD**
- 9/99- 9/01**      **Director, Medical Affairs**  
**BD Diagnostic Systems**  
**Sparks, MD**
- 8/96- 8/99**      **Associate Medical Director**  
**Becton Dickinson Microbiology Systems**  
**Sparks, MD**
- 8/93- 7/96**      **Infectious Diseases Consultant**  
**Harbin Clinic**  
**Rome, GA**
- 8/93 - 7/96**      **Clinical Microbiology Consultant**  
**Floyd Medical Center and Redmond Regional Medical**  
**Center, Rome, GA.**
- 8/93- 7/96**      **Epidemiology Consultant**  
**Floyd Medical Center and Redmond Regional Medical**  
**Center, Rome, GA.**
- 4/94- 7/96**      **Chairman, Infection Control Committee and Infectious**  
**Diseases Consultant, Coosa Valley Home Health Agency,**  
**Rome, GA.**
- 8/94- 7/96**      **Chairman, Infection Control Committee,**  
**Floyd Medical Center**  
**Rome, GA.**
- 1/91 - 6/93**      **Member, Duke Endocarditis Service**  
**Duke University Medical Center**  
**Durham, NC**

## **BOARD CERTIFICATION**

<b>The American Board of Internal Medicine</b>	<b>9/92</b>
<b>The American Board of Pathology (Medical Microbiology)</b>	<b>5/93</b>
<b>The American Board of Internal Medicine (Infectious Diseases)</b>	<b>11/94</b>

## **STATE LICENSES**

1. North Carolina [REDACTED]
2. Georgia [REDACTED]
3. Maryland [REDACTED] License [REDACTED]

## **TEACHING EXPERIENCE:**

- 5/03- 12/05    Clinical Assistant Professor  
Department of Pathology  
University of Maryland School of Medicine**
- 08/94- 7/96    Clinical Associate Professor  
Family Practice Residency Program  
Floyd Medical Center**
- 12/82 - 5/88    Associate  
Department of Pathology and Laboratory  
Medicine  
Emory University School of Medicine  
Atlanta, Georgia**

## **FACULTY LECTURE PROGRAM:**

- **Member of the "Anti-infective Visiting Faculty" for Bristol-Myers Squibb Co. Princeton, NJ (1993-1997)**
- **Faculty member of "Pathology of HIV Infection and AIDS Course", Arlington, VA, August 2000**

**EDITORIAL POSITIONS:**

**Associate Editor of "Antimicrobics and Infectious Diseases Newsletter", published by Elsevier Science. 1994-1996**

**Journal Manuscript Reviewer:**

*Clinical Infectious Diseases* 2001-current

**COMMITTEE MEMBERSHIP: (current)**

**Member, Archives Committee for American Society for Microbiology (2007-current)**

**Member, FDA Microbiology Device Advisory Board (2008-current)**

**Member, Mid-Atlantic Regional Center of Excellence External Advisory Board (2008-current)**

**SUBCOMMITTEE MEMBERSHIP: (current)**

**Member, CLSI Subcommittee on Blood Culture Practices (voting member) (2004-current)**

**Observer, CLSI Subcommittee on Antimicrobial Susceptibility Testing**

**SOCIETIES:**

**March, 1977 American Society for Microbiology**

**October, 1985 American Medical Association**

**July, 1991 Infectious Disease Society of America**

**October, 1996 European Society of Clinical Microbiologists**

**December, 2003 Society for Critical Care Medicine**

## **PUBLICATIONS:**

### **Book Chapters**

1. Durack DT, Towns M. Diagnosis and management of infective endocarditis. In Yusuf S, et al, eds. Evidence Based Cardiology. BMJ Books, 1998 and 2<sup>nd</sup> Edition 2002
2. Towns M. *Kingella*. In Yu V, et. al., eds. Antimicrobial Chemotherapy and Vaccines. Williams and Wilkins, 1998 and 2<sup>nd</sup> Edition 2002
3. Goldstein E, Towns M, Chen C. *Eikenella corrodens*. In Yu V, et al, eds. Antimicrobial Chemotherapy and Vaccines. Williams and Wilkins, 1998 and 2<sup>nd</sup> Edition 2002.

### **Articles**

1. Jarvis W, Towns M, Nunez-Montiel O, Thompson F, Morris G, Hill E: Comparison of bacterial isolation, cytotoxicity assay and counterimmunoelectrophoresis for detecting Clostridium difficile or its toxin. Journal of Infectious Disease 147:778, 1983.
2. Jarvis W, Nunez-Montiel O, Thompson F, Dowell V, Towns M, Morris G, Vogler W, Winton E, Hill E: False-positive Clostridium difficile counterimmunoelectrophoresis tests: the role of Clostridium bifermentans and Clostridium sordelli. Journal of Infectious Disease 148(6):1168-1169, 1983.
3. Davis, CL, Towns M, Henrich WL, Melby K: *Neisseria mucosus* endocarditis following drug abuse. Case report and review of the literature. Arch Intern Med 143(3):583-5, 1983.
3. Morris G, Jarvis W, Nunez-Montiel O, Towns M, Thompson F, Dowell V, Hill E, Vogler W, Winton E, Hughes J: Clostridium difficile in a cohort of patients with hematologic malignancies. Archives of Internal Medicine 144(5):967-969, 1984.
4. Towns M, Hill E, Tindall S: Frontal bone osteomyelitis due to Clostridium difficile. Clinical Microbiology Newsletter 6(1):6-7, 1984.
5. Towns M, Barbaree J, Feeley J, Hill E: Comparison of the rapid tube test, paper chromatography, and gas liquid chromatography for the detection of hippurate hydrolysis by Legionella species. In C. Thornsberry, A. Balows, J. Feeley, and W. Jakubowski (eds), Legionella: Proceedings of the 2nd International Symposium. American Society for Microbiology, Washington, D.C., 1984.
6. Hunter R, Bennett B, Towns M: Transferrin in Disease II: Defects in the Regulation of Transferrin Saturation with Iron Contribute to Susceptibility to Infection. American Journal of Clinical Pathology 81:748, 1984.
7. Towns M, Bennett B, Check I, Hunter R: An improved method for determining the microbial inhibitory activity of serum and its application to the study of patients with leukemia. American Journal of Clinical Pathology 92:192, 1989.

8. Towns M, Fisher D, Moore J: Community-acquired pneumonia due to Legionella gormanii. *Clinical Infectious Diseases* 18:265, 1994.
9. Durack D, Lukes A, Bright D, Towns M (as member of the Duke Endocarditis Service): New criteria for diagnosis of infective endocarditis: Utilization of specific echocardiographic findings. *Am J Med* 96:200, 1994.
10. Weinstein J, Roe M, Towns M, Sanders L, Thorpe J, Corey GR, Sexton D: Resistant enterococci: A prospective study of prevalence, incidence, and factors associated with colonization in a university hospital. *Infection Control and Hospital Epidemiology* 17:36-41, 1996.
11. Weinstein MP, Towns M, Quartey SM, Mirrett S, Reimer LG, Parmigiani G, Reller LB. The clinical significance of positive blood cultures in the 1990s: A prospective comprehensive evaluation of the microbiology, epidemiology, and outcome of bacteremia and fungemia in adults. *Clin Infect Dis* 24:584, 1997.
12. Towns M. Sepsis: Present Status in the United States. *Rinsho to Kenkyu* ("Clinical Practice and Investigation"), Suppl. Jan 2002, Vol 79 (1): 104-110, Daido Gakkan.
13. Towns M, Reller LB. Diagnostic Methods, Current Best Practices, and Guidelines: Bacteria and Fungi. In Durack DT (ed). *Infective Endocarditis*. *Infect Dis Clinics of North America*. W. B. Saunders, Vol 16:363-376, 2002.
14. Towns M, Reller LB. Diagnostic methods, Current best practices and guidelines for isolation of bacteria and fungi in infective endocarditis. Reprinted in *Cardiology Clinics* 21:1-9, 2003.
15. [REDACTED]
16. Lissauer ME, Johnson SB, Bochicchio GV, Field CJ, Cross AS, Hasday JD, Whiteford CC, Nussbaumer WA, Towns ML, Scalea, TM. Differential Expression of Toll-like Receptor Genes: Sepsis compared to sterile inflammation one day prior to sepsis diagnosis. *Shock* July 24, 2008

**ABSTRACTS:**

1. Cox D, Baugh C, Towns M: A comparison of the levels of some enzymes associated with CO<sub>2</sub>/HCO<sub>3</sub> assimilation in virulent and avirulent Neisseria gonorrhoeae. Presented at the Texas Branch Meeting of the American Society for Microbiology, October, 1977.
2. Cox D, Baugh C, Towns M: Carbamylphosphate synthetase II, ornithine and aspartase transcarbamylase activity in Neisseria gonorrhoeae. Presented at the Texas Branch Meeting of the American Society for Microbiology, March, 1978.

- 3. Morris J, Jarvis W, Nunez-Montiel O, Towns M, Thompson F, Dowell V, Hill E, Vogler W, Winton E, Hughes J: Clostridium difficile in a cohort of patients with hematological malignancies. Presented at the 22nd International Conference of Antimicrobial Agents and Chemotherapy, October, 1982.**
- 4. Towns M, Hill E: Effect of glycine and sodium chloride on the lysostaphin disk test. Presented at the 83rd Annual Meeting of the American Society for Microbiology, March, 1983.**
- 5. Jarvis W, Towns M, Nunez-Montiel O, Thompson F, Morris G, Hill E: Comparison of bacterial isolation, cytotoxicity assay and counterimmunoelectrophoresis for detecting Clostridium difficile or its toxin. Presented at the 83rd Annual Meeting of the American Society for Microbiology, March, 1983.**
- 6. Towns M, Barbaree J, Feeley J, Hill E: Comparison of rapid tube test, paper chromatography, and gas liquid chromatography for the detection of hippurate hydrolysis by Legionella species. Presented at the 2nd International Symposium on Legionnaire's Disease, June, 1983.**
- 7. Towns M, Hunter R, Reeves M, Hill E: Microbial inhibitory activity of serum from patients with leukemia. Presented at the 22nd meeting of the American Association of Immunology/American Society of Biological Chemists Meeting, April, 1984.**
- 8. Towns M, Quartey S, Weinstein M, Mirrett S, Reimer L, Reller LB: The clinical significance of positive blood cultures: A prospective, multicenter investigation. Presented at the 93rd General Meeting of the American Society for Microbiology, May 1993.**
- 9. Quartey S, Towns M, Weinstein MP, Mirrett S, Reimer L, Reller LB: Microbiology, epidemiology, and prognostic significance of bacteremia and fungemia in HIV-infected and HIV-uninfected patients. Presented at the 93rd General Meeting of the American Society for Microbiology, May, 1993.**
- 10. Harrell L, Thorpe J, Towns M, Reller LB: Gastrointestinal tract colonization with antibiotic resistant enterococci. Presented at the 93rd General Meeting of the American Society for Microbiology, May, 1993.**
- 11. Towns ML, Quartey S, Weinstein MP, Mirrett S, Reimer LG, Reller LB: Therapeutic decisions for clinically-significant bacteremia: a multi-institutional review. Presented at the 1993 Infectious Diseases Society of America Annual Meeting, October, 1993.**
- 12. Reller LB, Mirrett S, Towns ML: Interpretation of clinical significance of coagulase-negative staphylococci. Presented at the Conjoint Meeting on Infectious Diseases. Toronto, Canada, Nov. 1993.**
- 13. Johnson SB, Bochicchio G, Shanholtz C, Cross A, Hasday J, Towns M, Moore R, and Scaea T: Uninfected Systemic Inflammatory Response Syndrom (SIRS) or Future Sepsis? Differences in Extracellular Matrix Modulators Prior to Onset of Clinical Sepsis. Chest Meeting Abstracts 2005**

**14. Johnson SB, Cross A, Hasday J, Bocchichio G, Shanholtz C, Towns M, Moore R.: Inflammatory Biomarkers in the Systemic Inflammatory Response Syndrome (SIRS): Are there differences in patients that become septic? Presented at the Society for Critical Care Medicine 34<sup>th</sup> Annual Meeting, Phoenix, January 2005.**

**15. Wang S, Critescu R, Garrett J, Whiteford C, Maldeis P, Ranc B, Thornton K, Towns M, Shi S: Development of Gene Expression Diagnostic Panels to Distinguish Pre-septic from SIRS patients. Presented at the 7<sup>th</sup> Annual International Sepsis Forum Meeting in Chapel Hill, NC May 2008.**

**16. Sonna LA, Singh IS, Lissauer ME, Maldeis P, Towns M, Moore R, Johnson SB, Hasday JD: The effect of body temperature on gene expression during SIRS and Sepsis. Presented at the American Thoracic Society Annual Meeting May 2008.**

## **PATENTS**

### **1. Diagnosis of sepsis or SIRS using biomarker profiles**

**Patent No.: US 7,645,573 B2  
Date of Patent: January 12, 2010**

### **2. Mass Spectrometry techniques for determining the status of sepsis in an individual**

**Patent No.: US 7,645,613 B2  
Date of Patent: January 12, 2010**

### **3. Method of predicting the onset of sepsis in SIRS-positive individuals using Mass Spectroscopy**

**Patent No.: US 7,632,685 B2  
Date of Patent: December 15, 2009**