

## CURRICULUM VITAE

Richard Edward Nettles, M.D.

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### DEMOGRAPHIC INFORMATION

#### Personal Data

[REDACTED]

#### Education and Training

Degrees/Year	Institution	Discipline
B.S. 1990-94	University of Notre Dame	Pre-professional Studies
M.D. 08/94-07/98	Duke University	MD
Internship 08/98-07/99	Duke University	Medicine
Residency 08/99-07/01	Duke University	Medicine
Fellowship 08/01-04/04	Johns Hopkins University	Infectious Diseases

#### Professional Experience

09/12-current	Vice-President, Medical Affairs, Infectious Diseases, Janssen
07/11-09/12	Sr. Medical Director, Medical Affairs, Infectious Diseases, Janssen
01/11-07/11	Group Director, Global Clinical Research, Virology, Research & Development, Bristol-Myers Squibb
08/09-01/11	Group Director, Discovery Medicine Clinical Pharmacology, Virology, Research & Development, Bristol-Myers Squibb
07/07-08/09	Director, Discovery Medicine Clinical Pharmacology, Virology, Research & Development, Bristol-Myers Squibb
08/05-07/07	Associate Director, Discovery Medicine Clinical Pharmacology, Virology, Research & Development, Bristol-Myers Squibb
04/04-07/05	Assistant Professor of Medicine, Department of Medicine, Divisions of Infectious Diseases Johns Hopkins University School of Medicine, Baltimore, MD

## RESEARCH ACTIVITIES

### Peer-reviewed Publications

1. Huhn GD, Eron JJ, Girard P, Orkin C, Molina J, DeJesus E, Petrovic R, Luo D, Van Landuyt E, Lathouwers E, **Nettles RE**, Brown K, Wong EY. "Darunavir/cobicistat/emtricitabine/tenofovir alafenamide in treatment-experienced, virologically suppressed patients with HIV-1: subgroup analyses of the phase 3 EMERALD study." *AIDS Res Ther* (2019) 16: 23.
2. Kagan RM, Dunn KJ, Snell GP, **Nettles RE**, and Harvey W. Kaufman HW. "Trends in HIV-1 Drug Resistance Mutations from a U.S. Reference Laboratory from 2006 to 2017." *AIDS Research and Human Retroviruses*. 2019 Aug.
3. Brown K, Patterson-Browning B, Liu C, Patel M, Stewart L, **Nettles RE**. "Treating Older HIV-1-infected Subjects With Cobicistat-boosted Darunavir in a 48-week Phase 3 Trial." *Rev Recent Clin Trials*. 2017 Apr 7.
4. Brown J, Chien C, Timmins P, Dennis A, Doll W, Sandefer E, Page R, **Nettles RE**, Zhu L, Grasela D. "Compartmental absorption modeling and site of absorption studies to determine feasibility of an extended-release formulation of an HIV-1 attachment inhibitor phosphate ester prodrug." *J Pharm Sci* 2013 Jun 5;102(6):1742-51.
5. Guedj J, Dahari H, Rong L, Sansone ND, **Nettles RE**, Cotler SJ, Layden TJ, Uprichard SL, Perelson AS. Modeling shows that the NS5A inhibitor daclatasvir has two modes of action and yields a shorter estimate of the hepatitis C virus half-life. *Proc Natl Acad Sci U S A* 2013 Mar 19;110(10):3991-6.
6. **Nettles RE**, Schurmann D, Zhu L, Stonier M, Huang S, Chang I, Chien C, Krystal M, Wind-Rotolo M, Ray N, Hanna GJ, Bertz R, Grasela DM. "Pharmacodynamics, safety and pharmacokinetics of BMS-663068, an oral HIV-1 attachment inhibitor in HIV-1-infected subjects." *J Infect Dis* 2012 Oct 14;206(7):1002-11.
7. Sun J, O'Boyle DR, Zhang Y, Wang C, Nower P, Valera L, Roberts S, **Nettles RE**, Fridell RA, Gao M. Impact of a baseline polymorphism on the emergence of resistance to the hepatitis C virus nonstructural protein 5A replication complex inhibitor, BMS-790052. *Hepatology* 2012 Jun;55(6):1692-9.
8. **Nettles RE**, Gao M, Bifano M, Chung E, Persson A, Marbury TC, Goldwater R, DeMicco MP, Rodriguez-Torres M, Vutikullird A, Fuentes E, Lawitz E, Lopez-Talavera JC, Grasela DM. "Multiple ascending dose study of BMS-790052, an NS5A replication complex inhibitor, in patients infected with hepatitis C virus genotype 1." *Hepatology*. 2011;54:1956-65.
9. Fridell RA, Wang C, Sun JH, O'Boyle DR, Nower P, Valera L, Qiu D, Roberts S, Huang X, Kienzle B, Bifano M, **Nettles RE**, Gao M. "Genotypic and phenotypic analysis of variants resistant to HCV NS5A replication complex inhibitor BMS-790052: In Vitro and In vivo correlations." *Hepatology*. 2011;54:1924-35.

10. Sevinsky H, Eley T, Persson A, Garner D, Yones C, **Nettles RE**, Krantz K, Bertz R, Zhang J. "The effect of efavirenz on the pharmacokinetics of an oral contraceptive containing ethinyl estradiol and norgestimate in healthy HIV-negative women." *Antiviral Therapy*. 2011;16(2):149-56.
11. Hanna GJ, Lalezari J, Hellinger JA, Wohl DA, **Nettles RE**, Persson A, Krystal M, Lin P, Colonna R, Grasela DM. "Antiviral Activity, Pharmacokinetics, and Safety of BMS-488043, a Novel Oral Small-Molecule HIV-1 Attachment Inhibitor, in HIV-1-Infected Subjects." *Antimicrob Agents and Chemother*. 2011 Feb;55(2):722-8
12. Gao M, **Nettles RE**, Belema Makonen, Snyder LB, Nguyen VN, Fridell RA, Serrano-Wu MH, Langley DR, Sun J, O'Boyle DR, Lemm JA, Wang C, Knipe JO, Chien C, Colonna RJ, Grasela DM, Meanwell NA & Hamann LG. "Chemical genetics strategy identifies an HCV NS5A inhibitor with a potent clinical effect." *Nature*. 2010;465:96-100
13. Bailey JR, Sedaghat AR, Kieffer T, Brennan T, Lee PK, Wind-Rotolo M, Haggerty CM, Kamireddi AR, Liu Y, Persaud D, Gallant JE, Cofrancesco J Jr., Quinn TC, Wilke CO, Ray SC, Siliciano JD, **Nettles RE**, Siliciano RF. "Residual Human Immunodeficiency Virus Type 1 Viremia in Some Patients on Antiretroviral Therapy Is Dominated by a Small Number of Invariant Clones Rarely Found in Circulating CD4+ T Cells." *J of Virology*. 2006;80:6441-57.
14. Agarwala S, Thal G, **Nettles RE**, Bertz R. "Further Information on the Administration of H<sub>2</sub>-receptor Antagonists with Atazanavir." *JAIDS*. 2006;42:516.
15. **Nettles RE**, Child MJ, Bertz RJ, Schnittman S. "Gilbert Syndrome and the Development of Antiretroviral Therapy Associated Hyperbilirubinemia: Genetic Screening is Unnecessary." *J of Infect Dis*. 2006;193:1611-1612.
16. Lee P, Kieffer T, Siliciano RF, **Nettles RE**. "HIV-1 Viral Load Blips are of Limited Clinical Significance." *J of Antimicrobial Chemotherapy*. 2006;57:803-805.
17. **Nettles RE**, Kieffer TL, Parsons T, Johnson J, Cofrancesco J, Gallant JE, Carson KA, Siliciano RF, Flexner C. "Marked Intraindividual Variability in Antiretroviral Concentrations May Limit the Utility of Therapeutic Drug Monitoring." *Clin Infect Dis*. 2006;42:1189-1196.
18. **Nettles RE**, Kieffer TL. "Update on HIV-1 Viral Load Blips." *Current Opinion in HIV and AIDS*. 2006;1:157-161.
19. **Nettles RE**, Kieffer TL, Siliciano RF. "Toward Determining the Clinical Significance of HIV Viral Load Elevations after Suppression." *Contagion*. 2005;2:451-456.
20. **Nettles RE**, Kieffer TL, Cofrancesco J, Gallant JE, Quinn T, Jackson B, Flexner C, Carson KA, Wu AW, Siliciano RF. "Psychological Distress and Physical Pain Appear to Have No Short-term Adverse Impact on Plasma HIV-1 RNA Levels in Patients on Successful HAART." *HIV Clinical Trials*. 2005;6:262-271.
21. Kieffer TL, **Nettles RE**. "Clinical Implications of HIV Viral Load Blips." *Hopkins HIV Rep*. 2005;17(4):8-9.

22. Monie D, Simmons RP, **Nettles RE**, Kieffer TL, Zhou Y, Zhang H, Karmon S, Ingersoll R, Chadwick K, Zhang H, Margolick JB, Quinn TC, Ray SC, Wind-Rotolo M, Miller M, Persaud D, Siliciano RF. "A Novel Assay Allows Genotyping of the Latent Reservoir for Human Immunodeficiency Virus Type 1 in the Resting CD4+ T Cells of Viremic Patients." *J of Virology*. 2005;79:5185-5202.
23. **Nettles RE**, Kieffer TL, Kwon P, Monie D, Han Y, Parsons T, Cofrancesco J Jr., Gallant JE, Quinn TC, Jackson B, Flexner C, Carson K, Ray S, Persaud D, Siliciano RF. "Intermittent HIV-1 Viremia (Blips) and Drug Resistance in Patients Receiving HAART." *JAMA*. 2005;293:817-29.
24. Kieffer TL, Kwon P, **Nettles RE**, Zhou Y, Monie D, Han Y, Ray SC, Siliciano RF. "G→A Hypermutation in Protease and RT Regions of HIV-1 Residing in Resting CD4+ T Cells *In Vivo*." *J of Virology*. 2005;79:1975-80.
25. **Nettles RE**, Kieffer TL, Simmons RP, Cofrancesco J Jr., Moore RD, Gallant JE, Persaud D, Siliciano RF. "Genotypic Resistance in HIV-1-infected Patients with Persistently Detectable Low-Level Viremia while Receiving HAART." *Clin Infect Dis*. 2004;39:1030-37.
26. Kieffer TL, Finucane M, **Nettles RE**, Quinn TC, Ray S, Persaud D, Siliciano RF. "Genotypic Analysis of HIV-1 Drug Resistance at the Limits of Detection: Distinguishing Sporadic and Selected Mutations in Individuals on HAART with Viral Loads Below 50 copies/ml." *J of Infect Dis*. 2004;189:1452-65
27. **Nettles RE**, Mazo D, Alwood K, Gachuhi R, Maltas G, Wendel K, Cronin W, Hooper N, Bishai W, Sterling TR. "Risk Factors for Relapse and Acquired Rifamycin Resistance after Directly Observed Tuberculosis Treatment: a Comparison by HIV Serostatus and Rifamycin." *Clin Infect Dis*. 2004;38:731-6
28. **Nettles RE**, Nichols LS, Bell-McGuinn K, Pipeling MR, Scheel PJ Jr, Merz WG. "Successful Treatment of *Trichosporon mucoides* Infection with Fluconazole in a Heart and Kidney Transplant Recipient." *Clin Infect Dis*. 2003;36e93-6.
29. Meine TJ, **Nettles RE**, Anderson DJ, Cabell CH, Corey GR, Sexton DJ, Wang A. "Cardiac conduction abnormalities in endocarditis defined by the Duke criteria." *Am Heart J* 2001;142:280-5
30. Li JS, Sexton DS, Mick N, **Nettles RE**, Fowler VG, Ryan T, Bashore T, Corey GR. "Proposed modifications to the Duke criteria for the diagnosis of infective endocarditis." *Clin Infect Dis* 2000;30:633-8
31. Gagliardi JP, **Nettles RE**, Sanders LL, Corey GR, Sexton DJ. "Native valve infective endocarditis in elderly and younger adult patients: comparison of clinical features and outcomes with use of the Duke criteria and the Duke endocarditis database." *Clin Infect Dis* 1998;26:1165-8
32. **Nettles RE**, McCarty DE, Corey GR, Li JS, Sexton DJ. "An evaluation of the Duke criteria in 25 pathologically-confirmed cases of prosthetic valve endocarditis." *Clin Infect Dis* 1997;25:1401-3

33. **Nettles RE, Sexton DJ.** "Successful treatment of *Edwardsiella tarda* prosthetic valve endocarditis in an AIDS patient." *Clin Infect Dis.* 1997;25:918-9
34. **Nettles RE, Sexton DJ.** "*Pasteurella multocida* prosthetic valve endocarditis: a case report and review of the literature." *Clin Infect Dis.* 1997;25:920-1
35. Mallory MA, **Nettles RE**, Alspaugh A, Sexton DJ. "Community-acquired prosthetic valve endocarditis due to methicillin-resistant *Staphylococcus aureus*." *Clin Infect Dis.* 1997;24:272-3

### **Book Chapter**

1. **Nettles RE.** Myocarditis. pp 339-340. In *The ABX Guide: Diagnosis and Treatment of Infectious Diseases.* 1st Edition. Johns Hopkins Handheld Antibiotic Guide. JG Bartlett, PG Auwaerter, PA Pham (eds). Thompson PDR, 2005
2. **Nettles RE.** Pericarditis. pp 367-369. In *The ABX Guide: Diagnosis and Treatment of Infectious Diseases.* 1st Edition. Johns Hopkins Handheld Antibiotic Guide. JG Bartlett, PG Auwaerter, PA Pham (eds). Thompson PDR, 2005
3. **Nettles RE.** Prosthetic Valve Endocarditis. pp 277-278. In *The ABX Guide: Diagnosis and Treatment of Infectious Diseases.* 1st Edition. Johns Hopkins Handheld Antibiotic Guide. JG Bartlett, PG Auwaerter, PA Pham (eds). Thompson PDR, 2005

### **Other Media**

1. **Nettles RE.** Pneumonia and acute renal failure in a prison inmate. Case rounds. Johns Hopkins Infectious Diseases Website. Sept. 18, 2001.
2. **Nettles RE.** Acute hepatitis in a patient with chronic hepatitis B. Case rounds. Johns Hopkins Infectious Diseases Website. Oct. 29, 2001.
3. **Nettles RE.** Diarrhea in a kidney transplant patient from West Virginia. Case rounds. Johns Hopkins Infectious Diseases Website. Jan 7, 2002.
4. **Nettles RE.** Pneumonia in a kidney transplant patient. Case rounds. Johns Hopkins Infectious Diseases Website. April 8, 2002.
5. **Nettles RE.** Fever in a dialysis patient. Case rounds. Johns Hopkins Infectious Diseases Website. April 8, 2002.
6. **Nettles RE.** Pneumonia in a neutropenic patient. Case rounds. Johns Hopkins Infectious Diseases Website. April 23, 2002.
7. **Nettles RE.** Brain lesions in an American traveler. Case rounds. Johns Hopkins Infectious Diseases Website. Aug 5, 2002.

8. **Nettles RE.** Splenic infarct in a patient with renal transplant. Case rounds. Johns Hopkins Infectious Diseases Website. Nov 13, 2002.
9. **Nettles RE.** Myocarditis. Johns Hopkins Handheld Antibiotic Guide. 2003-04.
10. **Nettles RE.** Pericarditis. Johns Hopkins Handheld Antibiotic Guide. 2003-04.
11. **Nettles RE.** Prosthetic Valve Endocarditis. Johns Hopkins Handheld Antibiotic Guide. 2003-04.
12. **Nettles RE.** Resistance Testing: Genotypes. Johns Hopkins Handheld HIV Guide. 2004.
13. **Nettles RE.** Resistance Testing: Phenotypes. Johns Hopkins Handheld HIV Guide. 2004.
14. **Nettles RE.** Antiretroviral therapy: Treatment-Experienced Patients. Johns Hopkins Handheld HIV Guide. 2004.
15. **Nettles RE.** Viral Load Assays. Johns Hopkins Handheld HIV Guide. 2004.

#### **Extramural Sponsorship**

1. Individual Ruth L. Kirschstein National Research Service Award, 8/2003-4/2004, ID# F32 AI056696-01, NIAID, principal investigator Richard E. Nettles
2. Bristol-Myers Squibbs Virology HIV Fellows Research Program Grant, 2004
3. Ultrasensitive genotypes, clinical/evolutionary insight 4/2004-7/2005, ID# K08 AI060367-01, NIAID, Principal Investigator Richard E. Nettles,

#### **EDUCATIONAL ACTIVITIES**

##### **Teaching**

1. Lecturer for HIV Management Update for foreign medical providers sponsored by Johns Hopkins Division of Infectious Diseases, 2004.
2. Lecturer for Johns Hopkins Summer Institute in Tropical Medicine and Public Health, 2004.
3. Lecturer for Johns Hopkins Center for Global Health Education. Principals of Antiretroviral Therapy for HIV-infected Patients Training Program. 2004
4. Discussion Leader for AIDS Education and Training Center weekly provider meeting, 2004.
5. Medicine Assistant Chief Resident: Duke University Hospital, 2001, teaching medical students, interns and junior medical residents

#### **EDITORIAL ACTIVITIES**

### **Peer Review Activities**

Adhoc Journal Reviewer

1. AIDS Research and Human Retroviruses.

Adhoc Reviewer, other media

1. Johns Hopkins Handheld HIV Guide. 2004.

## **CLINICAL ACTIVITIES**

### **Board Certification and Licensure**

1. Maryland Medical License (4/19/04, currently retired, ID#D0061554)
2. Pennsylvania Medical License (10/14/2005, ID# MD427790)
3. Internal Medicine Board Certification (August 2001, candidate # 203137)
4. Infectious Disease Board Certification (November 2003, candidate# 203137)

## **ORGANIZATIONAL ACTIVITIES**

### **Professional Societies**

1. Infectious Diseases Society of America (member 2001-current)

### **Prior Institutional Administrative Appointments**

1. Johns Hopkins Infectious Diseases Fellowship Curriculum Committee (member, 2004)
2. Johns Hopkins Fellowship Annual Program Review Committee (member 2004-05)

## **RECOGNITION**

### **Awards and Honors**

1. Johnson and Johnson Accelerated Enterprise Leadership participant, 2013
2. Bristol-Myers Squibb Virology HIV Fellows Research Program Award, 2004
3. Individual Ruth L. Kirschstein National Research Service Award, 2003

4. National Institute of Health Clinical Research Loan Repayment Recipient, 2002
5. Nominated for Duke Resident Excellence in Teaching Award, 2000
6. Louis Weinstein Award: Article of the year in Clinical Infectious Diseases 1998
7. Summa cum Laude, Phi Beta Kappa, Dean's List, University of Notre Dame 1990-94

### **Selected Talks**

1. **Nettles RE**, Cabell CH, Meine FJ, Anderson D, Sexton DJ, Corey GR. "The effect of aspirin on stroke incidence during infective endocarditis." 40<sup>th</sup> International Conference on Antimicrobial Agents and Chemotherapy. Toronto, Canada 9/2000.
2. **Nettles RE**, Mazo D, Alwood K, Gachuchi R, Maltas G, Wendel K, Cronin W, Bishai W, Sterling T. "Tuberculosis relapse and acquired rifamycin resistance in HIV-1 infected persons is associated with low CD4 count, but is not more common with rifabutin than rifampin. CROI. Boston. 2/2003.
3. **Nettles RE**, Kieffer T, Kwon P, Quinn T, Jackson B, Cofrancesco J, Gallant J, Flexner C, Carson K, Ray S, Persaud D, Siliciano R. "Intermittent Low-level HIV-1 Viremia in Patients on HAART: Defining Blip Dynamics, Clinical Correlates and Genotypic Resistance Implications by Frequent Sampling and Clonal Ultrasensitive Genotyping." 44<sup>th</sup> International Conference on Antimicrobial Agents and Chemotherapy. Washington DC 10/2004.
4. **Nettles RE**, Chien C, Chung E, Persson A, Gao M, Belema M, Meanwell N, DeMicco M, Marbury T, Goldwater P, Northup P, Coumbis J, Kraft WK, Charlton M, Lopez-Talavera JC, Grasela DM. "BMS-790052 is a First-in Class Potent Hepatitis C Virus (HCV) NS5A Inhibitor for Patients with Chronic HCV Infection: Results from a Proof-of-concept Study" 13<sup>th</sup> International Symposium on Viral Hepatitis and Liver Disease. Washington DC 3/2009.
5. **Nettles RE**, Schurmann D, Zhu L, Stonier M, Huang S, Chien C, Krystal M, Wind-Rotolo M, Bertz R, Grasela D. "Pharmacodynamics, Safety, and Pharmacokinetics of BMS-663068, a Potentially First-in-Class Oral HIV Attachment Inhibitor." CROI. Boston 3/2011.