

September 15, 2021

## CURRICULUM VITAE

### DOUGLAS D. RICHMAN

**Work Address:** VA San Diego Healthcare System and  
University of California San Diego  
Departments of Pathology & Medicine, 0679  
9500 Gilman Drive  
La Jolla, CA 92093-0679

**Telephone:** (858) 552-7439  
**Fax:** (858) 552-7445

**E-mail:** drichman@ucsd.edu

**Website:** <https://profiles.ucsd.edu/douglas.richman>

**Home Address:** 9551 La Jolla Farms Road  
La Jolla, California 92037

**Birth Date:** February 15, 1943

**Birthplace:** New York, New York

**Family:** Married: June 21, 1965  
Wife: Eva Acquino Richman  
Children: Sara Giovanna, born December 12, 1971  
Matthew, born May 22, 1977  
Grandchild: Isabella Louise Carr, born June 18, 2007

**Education and Positions:**

Dartmouth College  
A.B. - 1965

Stanford University  
M.D. - 1970

1965 - 1970 Part-time research with Dr. Thomas C. Merigan  
Division of Infectious Diseases  
Department of Medicine  
Stanford University

1970 - 1971 Intern in Medicine  
Stanford University Hospitals

|             |   |
|-------------|---|
| 1971 - 1972 | Resident in Medicine<br>Stanford University Hospitals   |
| 1972 - 1975 | Research Associate<br>Laboratory of Infectious Diseases<br>(Dr. Robert M. Chanock, Chief)<br>National Institute of Allergy and Infectious Diseases<br>National Institutes of Health                                     |
| 1975 - 1976 | Clinical Fellow<br>Division of Infectious Diseases<br>Beth Israel Hospital and Children's Hospital Medical Center<br>Harvard Medical School<br>Boston, Massachusetts  |
| 1976 - 1982 | Assistant Professor of Pathology and Medicine (Infectious Diseases)<br>University of California San Diego School of Medicine  |
| 1976 -      | Staff Physician<br>Veterans Affairs San Diego Healthcare System   |
| 1976 - 2006 | Chief, Clinical Virology Section, Laboratory Service<br>Veterans Affairs San Diego Healthcare System  |
| 1982 - 1988 | Associate Professor of Pathology and Medicine (Infectious Diseases)<br>University of California San Diego School of Medicine  |
| 1988 - 2009 | Professor of Pathology and Medicine (Infectious Diseases)<br>University of California San Diego School of Medicine<br><br>Director, Research Center for AIDS and HIV Infection of the VA San Diego<br>Healthcare System |
| 1994 -      | San Diego Center for AIDS Research; Co-Director (1994-2000), Director (2000-<br>2018), Co-Director (2018- )   |
| 1996 -      | UCSD HIV Institute (previously named UCSD AIDS Research Institute)<br>Co-director (1996-2000), Director (2000 - )   |
| 2004 - 2019 | Florence Seeley Riford Chair for Acquired Immune Deficiency Syndrome Research   |
| 2009 - 2019 | Distinguished Professor of Pathology and Medicine (Infectious Diseases)<br>University of California San Diego School of Medicine  |
| 2019-       | Distinguished Professor Emeritus (Active) of Pathology and Medicine (Infectious<br>Diseases), University of California San Diego School of Medicine   |

**Military Service:** Lt. Cmdr/Surgeon, 1972-1975,  
United States Public Health Service (#34991)  
Honorable Discharge, July 3, 1975

**Certification:** Licensed, California State Board of Medical Examiners (G-21088), 1971  
Diplomate, National Board of Medical Examiners (#113044), 1972  
Diplomate, American Board of Internal Medicine (#43457), 1973  
Diplomate, Subspecialty of Infectious Disease (#043457), 1976

**Honors:** A.B. (cum laude) Dartmouth College, 1965  
  
Alpha Omega Alpha, 1970  
  
Lowell Rantz Award in Infectious Diseases, 1970  
  
AMA Physicians Recognition Award, 1976, 1979, 1982, 1985, 1988  
  
John Simon Guggenheim Fellowship, 1984  
  
Visiting Fellowship, Clare Hall, University of Cambridge, 1984-1985  
  
Visiting Professor; Hubei Medical College, Wuhan, Peoples Republic of China,  
Oct., 1987  
  
Visiting Professor; Tokyo Medical and Dental University, Kumamoto University  
School of Medicine, Institute for Virus Research at Kyoto University, St. Marianna  
University (Tokyo), Institute for Medical Research at Tokyo University,  
Fukushima Prefecture Medical School, Japan, Nov., 1990  
  
The Donald P. Shiley Visiting Lectureship, Scripps Clinic and Research  
Foundation, March, 1991.  
  
Howard M. Temin Award for Clinical Science for Scientific Excellence in the Fight  
Against HIV/AIDS, 1993  
  
The Howard Gilman Foundation Honors Program Lecture, New York University,  
February 28, 1994  
  
NIH MERIT Award, 1994  
  
UCSD School of Medicine Distinguished Faculty Lectureship, 1994  
  
Visiting Professor, Academisch Ziekenhuis Utrecht, University of Utrecht, 8-10  
May, 1996  
  
ARA Endowed Chair for AIDS Research Visiting Professor, Academic Medical  
Center, University of Amsterdam, 13-15 May, 1996  
  
Pfizer Visiting Professor, University of Rochester, 2-4 October, 1996  
  
Honorary Medical Advisory Board, Ryan White Foundation, 1997 – 1998  
  
Jay Sanford Visiting Professor, University of Texas Southwestern Medical School,  
Dallas, Tx 6-8 January 1999  
  
Pfizer Visiting Professor, Mt. Sinai School of Medicine, 26-27 April, 1999

John T. Carey Memorial Visiting Professor, Case Western Reserve School of Medicine, 5-6 May, 1999

Gertrude Elion Distinguished Lectureship, Conference on Drug Development for Antiretroviral Therapies, San Juan P.R., 18 Dec 2000

ISI Most Highly Cited Researchers, 2000-

Steve Chase Humanitarian Award for Science and Medicine, Desert AIDS Project, 10 February 2001

Institute for Scientific Information Highly Cited Researcher, 2001, 2002

Best Doctor listing, Infectious Disease, annually since 2001

Gordon Meiklejohn Visiting Professor, Univ of Colorado, 7-8 March 2001

UCSD Health Sciences Award of Excellence in Research, 2002

Dept of Veterans Affairs William S. Middleton Award, 2002

Pan American Society for Clinical Virology: Clinical Virology Award, 2004

Bernard Fields Memorial Lectureship, Conference on Retroviruses and Opportunistic Infections 3 February 2008

Thomas C. Merigan Visiting Lectureship, Stanford University, 30 September 2008

Docteur en Medecin, Honoris Causa, University of Lausanne, 2010

Hayden-Farr Lectureship in Epidemiology and Virology University of Virginia, Charlottesville April 9, 2013

European Journal of Clinical Investigation, cited in List of Highly Influential Biomedical Researchers, 1996-2011, Volume 43, Issue 12, pages 1339-1365, October 2013

Visiting Professor, Department of Medicine, Northwestern University, October 20-21, 2014

Gerald Medoff Visiting Professorship in Infectious Diseases, Washington University School of Medicine, St. Louis, MO, October 30-31, 2014

Dr. A. Brad Tuax Award, 2015

Gertrude Elion Award Lectureship, International Society for Antiviral Research, La Jolla, California, 18 April 2016

Annual Award from the Fundación Lucha contra el Sida (Foundation for the Fight against AIDS), Madrid, Spain, 22 November 2016

California State Assembly Certificate of Recognition, 1 November 2019

## Patents

E Raz, HJ Cho, DD Richman, AA Horner  
"Methods for Increasing A Cytotoxic T Lymphocyte Reponse in Vivo"

US Patent No. 6,534,062 B2, March 2003

A Rosowsky, KY Hostetler, JR Beadle, GD Kini, DD Richman  
"Antiviral Compounds and Methods of Administration"  
US Patent No. 6,686,462B 2, February 2004

D Richman, MT Wrin, S Little, CJ Petropoulos, NT Parkin, J Whitcomb, W Huang  
"Method of Evaluating a Patient Antibody Response to Envelope Proteins of a  
Virus"  
US Patent No. 7,247,439, July 2007

D Richman, MT Wrin, S Little, CJ Petropoulos, NT Parkin, J Whitcomb, W Huang  
"Methods for Determining the Presence of Antibodies Blocking Viral Infection"  
US Patent No. 9,175,355 B2, November 2015

**Societies:**

Fellow, American Academy of Microbiology  
Fellow, American Association for the Advancement of Science  
Fellow, American College of Physicians  
Fellow, Infectious Diseases Society of America  
American Association of Physicians  
American Clinical and Climatological Association (retired)  
American Federation for Clinical Research  
American Society for Microbiology  
American Society for Virology  
International AIDS Society  
International Society for Antiviral Research  
Western Association of Physicians  
VA Society for Physicians in Infectious Diseases

**Editorial Boards:**

*AIDS*, 1990 – 1993, 2007-2013  
*AIDS Alert*, 1990 -2009  
*Antimicrobial Agents and Chemotherapy*, 1987 - 2002  
*Antiviral Research*, 1988 - 2000  
*Antiviral Chemistry and Chemotherapy*, 1994 - 2012  
*Diagnostic Microbiology and Infectious Diseases*, 1982 - 1997  
*Drug Resistance Updates*, 1998 - 2010  
*Infectious Agents and Disease*, 1991 - 1996  
*International Antiviral News*, 1992 - 2002  
JAMA HIV/AIDS Information Center Website, 1997 - 2001  
*Journal of Virology*, 1994 - 2003  
*Journal of Human Virology*, 1997 - 2002  
*Journal of Acquired Immunodeficiency Syndromes*, 1988 -  
*Journal of Clinical Investigation*, Consulting Editor, 1991 - 1998  
*Reviews in Medical Virology*, 1990 -  
*Virology*, 2005 –  
*Future Virology*, 2005 –  
*The Open Virology Journal*, 2007-  
*The Open AIDS Journal*, 2007-2017  
*Current Opinion in HIV and AIDS*, 2005-  
Invited Editor: *PNAS*, 2012, 2013  
*Journal of Virus Eradication* 2014-  
Associate Editor, *Pathogens and Immunity*, 2016-

**Editor-in-Chief:**

*Antiviral Therapy* 1996-

*Improving the Management of HIV Disease* 1994 - 1999; name change to *Topics in HIV Medicine*, 2000 - 2011; name change to *Topics in Antiviral Medicine*, 2011-  
Publication of the International AIDS Society - USA

**Outside Committee Service:**

- |                        |   |
|------------------------|---|
| 1984-1989              | Member, University of California President's Cancer Research Coordinating Committee   |
| 1986-1989              | Consultant, FDA Center for Drugs and Biologics  |
| 1987-1990              | Member, NIH AIDS Research Review Committee  |
| 1987-1990<br>1987-1992 | Publications Committee, Infectious Disease Society of America<br>Councillor, Pan American Group for Rapid Viral Diagnosis           |
| 1987-1995              | Member, Primary Infection Core Committee, NIAID AIDS Clinical Treatment Groups  |
| 1990-1998<br>Office    | Veterans Affairs Ad Hoc Therapeutic Advisory Committee of the AIDS Program  |
| 1987-1990              | Vice-Chair, Primary Infection Committee, NIAID AIDS Clinical Treatment Group  |
| 1991-1993              | Chair, Primary Infection Committee, NIAID AIDS Clinical Treatment Group   |
| 1990-2006              | Advisory Panel on Infectious Diseases Therapy, United States Pharmacopeial Convention   |
| 1991-1994              | Member, AIDS Clinical Drug Development Committee, National Institute of Allergy and Infectious Diseases                             |
| 1991-1995              | Member and Chair (1994-5), Steering Committee on Research and Drug Development, Global Programme on AIDS, World Health Organization |
| 1991-1998              | Advisory Board, International AIDS Society  |
| 1992-1995              | Member, Viral Resistance Working Group<br>AIDS Clinical Trials Group, NIAID   |
| 1992-1996              | Member, Virology Core Committee, AIDS Clinical Trials Group, NIAID  |
| 1993-1995              | Co-Chair Combination Therapy Working Group<br>AIDS Clinical Trials Group, NIAID   |
| 1992-1993              | Co-Chair, Track B (Clinical Sciences) IX <sup>th</sup> International Conference on AIDS   |

1992-2002 Member, External Advisory Committee, University of Alabama Birmingham, Center for AIDS Research

1992- Vice President, Board of Directors, International AIDS Society-USA

1993-1996 Member, Herpes Simplex Encephalitis Subcommittee, NIAID Collaborative Antiviral Study Group

1993-1996 State of California AIDS Drug Assistance Program Advisory Committee

1993- Program Committee, National Conferences on Human Retroviruses and Related Infections, Member Program Committee (1993-1993, Vice-Chair); Chair (1996-1999),

1994-1997 Member, Gene Therapy Core Committee, NIAID AIDS Clinical Treatment Group

1994-2000 Member, External Advisory Committee, Center for AIDS Research, University of California San Francisco

1994-1996 Member, Scientific Advisory Board, University of Colorado National Cooperative Drug Development Group for HIV

1994-1996 Member, Resistance Genotype Committee, NIAID AIDS Clinical Trials Group

1995-1996 Chair, Steering Committee on Research and Drug Development, Global Programme on AIDS, World Health Organization

1995-1999 Member, HIV/Virology Research Agenda Committee, NIAID AIDS Clinical Treatment Group

1995-1996 Member, Resistance Subcommittee, International Virology Committee, NIAID AIDS Clinical Trials Group

1995-1996 Member, Area Review Panel on Clinical Trials, Office of AIDS Research, National Institutes of Health

1996-2000 Member, National Cancer Institute AIDS Malignancies Working Group

1996-2005 Member, Virology Committee, AIDS Clinical Trials Group

1996-2003 Scientific Advisory Board, Aaron Diamond AIDS Research Center

1997- Organizing Committee, Annual Meeting HIV Drug Resistance and Treatment Strategies

1997-2000 Member, Executive Committee, NIAID Adult AIDS Clinical Trials Group

1997-2004 Member, AIDS Vaccine Research Committee of the National Institutes of Health

|            |   |
|------------|---|
| 1997-      | Board of Directors, Foundation for Human Retrovirology  |
| 1997-      | Executive Advisory Panel of irsiCaixa, Barcelona  |
| 1998-2001  | Member, Executive Committee on HIV for Veterans Affairs Quality Enhancement Research Initiative (VA QUERI)                                  |
| 1998- 2012 | Advisory Board, Elisabeth Glaser Scientist Award of the Pediatric AIDS Foundation   |
| 1998       | Co-Chair, Keystone Symposium on Molecular Approaches to Human Viral Vaccines  |
| 1998-2000  | Chair, HIV Drug Resistance Collaborative Group (Academic Investigators, Industry, FDA)  |
| 1999-2005  | Review Panel, Cancer Research Fund of the Damon Runyon-Walter Winchell Foundation   |
| 1999-2003  | Scientific Committee, SHARE: The International AIDS Society Educational Program on HIV Clinical Program on HIV Clinical Care and Prevention |
| 2001-2006  | VA QUERI-HIV Steering Committee   |
| 2002- 2013 | Scientific Advisory Board, Vaccine Research Center (NIAID/NIH)  |
| 2002-2007  | Chair, Pathogenesis Working Group, Acute Infection and Early Disease Research Program   |
| 2003-2004  | Co-Chair, Dept of Veterans Affairs Blue Ribbon Committee on Laboratory Science  |
| 2003- 2013 | Scientific Advisory Committee, New England Regional Primate Center  |
| 2004       | HIV Vaccine Enterprise Vaccine Discovery Working Group  |
| 2004-      | Executive Scientific Advisory Panel of the AIDS Research Institute irsi Caixa, Barcelona, Spain   |
| 2004-2007  | External Advisory Committee, North-Central California Center for AIDS Research  |
| 2004       | Institute of Medicine Committee on Antiviral Drug Use in Resource Constrained Settings  |
| 2004-2007  | Vice-chair (2004-2005) and Chair (2005-), Executive Committee, NIH/NIAID Acute Infection and Early Disease Research Program                 |
| 2004- 2013 | External Advisory Committee, Case Western Reserve University Center for AIDS Research   |



|                   |  |
|-------------------|--|
| 2005-2008         | Executive Committee, NIH Centers for AIDS Research, Directors  |
| 2005-2009         | Scientific Advisory Board, International AIDS Vaccine Initiative   |
| 2007- 2012        | Scientific Advisory Board, Gates Vaccine Harvard Discovery T-Cell Consortium   |
| 2009- 2013<br>the | Institute of Medicine and National Academy of Science's Committee on Planning<br>the<br>Assessment/Evaluation of HIV/AIDS Programs Implemented Under the U.S.<br>Global Leadership Against HIV/AIDS, Tuberculosis and Malaria Reauthorization<br>Act of 2008 |
| 2010- 2018        | Scientific Advisory Board, UCSD Translational Methamphetamine AIDS Research<br>Center (TMAR)   |
| 2011- 2014        | American Association for the Advancement of Science Electorate Nominating<br>Committee of the Section of Medical Sciences  |
| 2011- 2014        | Scientific Advisory Board, University of Minnesota Reservoir PO1   |
| 2011              | National Cancer Institute Board of Scientific Counselors for Basic Sciences  |
| 2012- 2017        | Executive Committee for NIH Martin Delaney Collaboratory of AIDS Researchers<br>for Eradication (CARE)   |
| 2012-             | Scientific Advisory Committee, NIGMS Structural Biology of AIDS Center, the HIV<br>Interaction and Viral Evolution Center; Art Olson PhD, the Scripps Research<br>Institute, PI  |
| 2013- 2016        | City of Hope California Institute for Regenerative Medicine (CIRM) Disease Team<br>External Advisory Board   |
| 2014-             | Scientific Advisory Board, HIV Immunotherapeutics Institute  |
| 2014- 2018        | Scientific Advisory Committee, Advancing Broad Spectrum Host-Targeting<br>Antiviral Strategies to the Clinic, Stanford Center of Excellence for Translational<br>Research  |
| 2014-2017         | Scientific Advisory Board, HIV Vaccine Research and Design (HIVRAD)<br>Program, The Scripps Research Institute and IAVI Neutralizing Antibody Center<br>at TSRI  |
| 2015-             | Scientific Advisory Board, Evaluation of an Intensified Treatment Monitoring<br>Strategy to Prevent Accumulation and Spread of HIV-1 Drug Resistance in Low-<br>and Middle-Income Countries; The University of Utrecht ITREMA Project                        |
| 2016-             | Center for AIDS Research Executive Committee   |

|            |  |
|------------|--|
| 2016- 2019 | Scientific Leadership Group, Human Vaccine Project   |
| 2016-      | Board of Directors, Human Vaccine Project  |
| 2020-2021  | Scientific Advisory Board, COVID-19 Early Treatment Fund (CETF)  |
| 2020-      | University of California Office of the President (UCOP), Critical Care Bioethics Working Group on COVID-19 |
| 2021 -     | Scientific Advisory Board, BEAT Delaney Cure Collaboratory   |

## BIBLIOGRAPHY

1. Richman DD, Wong KT, Robinson WS, Merigan TC. Effect of Interferon on the Replication of Sendai Virus. *J Gen Virol* 9: 141-150, 1970.
2. Richman DD, Zamvil L, Remington JS. Recurrent *Pneumocystis Carinii* Pneumonia in a Child with Hypogammaglobulinemia. *Am J Dis Child* 125:102-103, 1973.
3. Richman DD, Murphy BR, Tierney EL, Chanock RM. Specificity of the Local Secretory Antibody to Influenza a Virus Infection. *J Immunol* 113: 1654-1656, 1974.
4. Chanock RM, Richman DD, Murphy BR, Spring SB, Schnitzer TS, Richardson LS. Current Approaches to Viral Immunoprophylaxis. In: *Viral Immunology and Immunopathology*. Edited by AL Notkins, New York, Academic Press; pp. 291-316, 1975.
5. Murphy BR, Richman DD, Chalhub EG, Uhlendorf CP, Baron S, Chanock RM. Failure of Attenuated Temperature Sensitive Influenza a (H3N2) Virus to Induce Heterologous Interference in Human to Parainfluenza Type 1 Virus. *Infect Immun* 12: 62-68, 1975.
6. Murphy BR, Spring SB, Richman DD, Tierney EL, Kasel J, Chanock RM. Temperature-Sensitive mutants of influenza virus. VII. Transfer of the TS-1[E] lesions to a wild-type influenza A virus with the HON1 surface antigens. *Virology*. 1975;66(2):533-41. Epub 1975/08/01. PubMed PMID: 1171556.
7. Richman DD, Murphy BR, Cline WL, Alling DW. Determination of Influenza Virus Neuraminidase Inhibition Titers. *Bull WHO* 52: 233-234, 1975.
8. Richman DD, Murphy BR, Spring SB, Coleman MT, Chanock RM. Temperature Sensitive Mutants of Influenza Virus. IX. Genetic and Biological Characterization of Ts-1 [E] Lesions When Transferred to a 1972 (H3N2) Influenza a Virus. *Virology* 66:551-562, 1975.
9. Spring SB, Nusinoff S, Mills J, Richman DD, Tierney EL, Murphy BR, Chanock RM. Temperature Sensitive Mutants of Influenza Virus. VI. Transfer of Ts Lesions From the Asian Subtype of Influenza a Virus (H2N2) to the Hong Kong Subtype (H3N2). *Virology* 66: 522-532, 1975.
10. Spring SB, Nusinoff S, Tierney EL, Richman DD, Murphy BR, Chanock RM. Temperature Sensitive Mutants of Influenza Virus. VIII. Genetic and Biological Characterization of Ts Mutants of Influenza a Virus (H3N2) and Their Assignment to Complementation Groups. *Virology* 66: 542-550, 1975.
11. Hall WJ, Douglas RG, Zaky DA, Hyde RW, Richman DD, Murphy BR. Attenuated Influenza Virus in Normal Adults. Role of Pulmonary Function Studies in Vaccine Trials. *J Infect Dis* 133: 145-151, 1976.
12. Kim HW, Arrobio JO, Brandt CD, Parrott RH, Murphy BR, Richman DD, Chanock RM. Temperature Sensitive Mutants of Influenza a Virus. X. Response of Children to the Influenza A/Hong Kong/68-Ts-1 [E] (H3N2) and A/Udorn/72-Ts-1 [E] (H3N2) Candidate Vaccine Viruses and Significance of Immunity to Neuraminidase Antigen. *Pediatr Res* 10: 238-242, 1976.

13. Murphy BR, Richman DD, Spring SB, Chanock RM. The Use of Temperature Sensitive Mutants of Influenza a Virus As Live Virus Vaccine Strains. *Postgrad Med J* 52: 381-388, 1976.
14. Richman DD, Murphy BR, Baron S, Uhlenhof C. Three Strains of Influenza a Virus (H3N2): Interferon Sensitivity In Vitro and Interferon Production in Volunteers. *J Clin Microbiol* 3: 223-226, 1976.
15. Richman DD, Murphy BR, Chanock RM, Gwaltney JM, Douglas RG, Betts RF, Blacklow NR, Rose RB, Parrino TA, Levine MM, and Caplan ES. Temperature Sensitive Mutants of Influenza a Virus. XII. Safety, Antigenicity, Transmissibility and Efficacy of Influenza A/Udorn/72-Ts-1 [E] Recombinant Temperature Sensitive Viruses in Adults. *J Infect Dis* 134: 585-593, 1976.
16. Dolin R, Richman DD, Murphy BR, Fauci AS. Cell-Mediated Immune Responses in Humans After Induced Infection with Influenza A Virus. *J Infect Dis* 135: 714-719, 1977.
17. Richman DD, Breton SJ, Goldmann DA. Scarlet Fever and Group a Streptococcal Surgical Wound Infection Traced to an Anal Carrier. *J Pediatr* 90: 387-390, 1977.
18. Richman DD, Murphy BR, Belshe RB, Rusten HM, Chanock RM, Blacklow NR, Parrino TA, Rose FB, Levine MM, Caplan E. Temperature Sensitive Mutants of Influenza a Virus. XIV. Production and Evaluation of Influenza A/Georgia/74-Ts-1 [E] Recombinant Viruses in Human Adults. *J Infect Dis* 136: 256-262, 1977.
19. Richman DD, Murphy BR, Chanock RM. Demonstration of a Non-Temperature-Sensitive Growth-Restricting Mutation in a Ts Mutant of Influenza a Virus: Implications for Live Virus Vaccine Development. *Virology* 83:356-364, 1977.
20. Chanock RM, Murphy BR, Spring SB, Richman DD. Live Virus Vaccines for Use in Humans: Strategies and Problems. In: *Microbiology-1977* Edited by D. Schlessinger, American Society for Microbiology, pp. 512-520, 1977.
21. Richman DD, Oxman MN. Antiviral Agents. In: *Seminars in Infectious Diseases*. Edited by L Weinstein, BN Fields, New York, Stratton Intercontinental Medical Board Corporation; pp. 200-255, 1978.
22. Catalano MA, Carson DA, Slovin SF, Richman DD, Vaughan JH. Antibodies to Epstein-Barr Virus-Determined Antigens in Normal Subjects and in Patients with Seropositive Rheumatoid Arthritis. *Proc Natl Acad Sci USA* 76: 5825-5828, 1979.
23. George WL, Volpicelli NA, Stiner DB, Richman DD, Liechty EJ, Mok HY, Rolfe RD, Finegold SM. Relapse of Pseudomembranous Colitis after Vancomycin Therapy. *New England Journal of Medicine* 301(8):414-5, 1979. Epub 1979/08/23. doi: 10.1056/nejm197908233010806. PubMed PMID: 460343.
24. Richman DD, Murphy BR. The Association of the Temperature Sensitive Phenotype and Viral Attenuation in Animals and Humans. Implications for development and use of live virus vaccines. *Rev Infect Dis* 1:413-433, 1979.

25. Richman DD. The Use of Temperature Sensitive Mutants for Live, Attenuated Influenza Vaccines. (editorial) *New Engl J Med* 300:137-138, 1979
26. Cleveland PH, Richman DD, Oxman MN, Wickham MG, Binder PS, Worthen DM. Immobilization of Viral Antigens on Filter Paper for [<sup>125</sup>I] Staphylococcal Protein a Immunoassay: A Rapid and Sensitive Technique for the Detection of Herpes Simplex Virus Antigens and Viral Antibodies. *J Immunol Methods* 29: 369-386, 1979.
27. Brautigam AR, Richman DD, Oxman MN. Rapid Typing of Herpes Simplex Virus Isolates by Deoxyribonucleic Acid: Deoxyribonucleic Acid Hybridization. *J Clin Microbiol* 12: 226-234, 1980.
28. Petru MA, Richman DD. Arizona Hinshawii Infection of an Atherosclerotic Abdominal Aorta. *Arch Int Med* 141: 537-538, 1981.
29. Redfield D, Richman DD, Oxman MN, Kronenberg L. Psoralen Inactivation of Influenza and Herpes Simplex Viruses and of Virus-Infected Cells. *Infect and Immun* 32: 1216-1226, 1981.
30. Richman DD, Cleveland PH, Oxman MN, Zaia JA. A Rapid Radioimmunoassay Using <sup>125</sup>I-Labeled Staphylococcal Protein A for Antibody to Varicella-Zoster Virus. *J Infect Dis* 143:693-699, 1981.
31. Richman DD, Yazaki P, Hostetler KY. The Intracellular Distribution and Antiviral Activity of Amantadine. *Virology* 112: 81-90, 1981.
32. Richman DD. Orthomyxoviruses and Paramyxoviruses. In: *International Textbook of Medicine, (Vol. II), Medical Microbiology and Infectious Diseases*, Edited by AI Braude, Philadelphia, WB Saunders Co.; Chapter 59, 569-584, 1981
33. Richman DD. Tuberculoma of the Brain. In: *International Textbook of Medicine, (Vol. II), Medical Microbiology and Infectious Diseases*, Edited by AI Braude, Philadelphia, WB Saunders Co, Chapter 154, 1246-1247, 1981
34. Richman DD. Viral Respiratory Infections. In: *Current Therapy 1981*, Edited by HF Conn, WB Sanders Co, Chapter 153, 1981
35. Whitley RJ and NIAID Collaborative Antiviral Study Group. Herpes Simplex Encephalitis. Vidarabine Therapy and Diagnostic Problems. *New Engl J Med* 304:313-318, 1981.
36. Hostetler KY, Richman DD. Studies on the Mechanism of Phospholipid Storage Induced by Amantadine and Chloroquine in Madin Darby Canine Kidney Cells. *Biochem Pharmacol* 31: 3795-3799, 1982.
37. Nahmias AJ, et al and NIAID Collaborative Antiviral Study Group. Herpes Simplex Encephalitis: Laboratory Evaluations and Their Diagnostic Significance. *J Infect Dis* 145: 829-836, 1982.
38. Reichman RC, Ginsberg M, Barrett-Connor E, Wyborny C, Connor JD, Redfield DC, Savoia MC, Richman DD, Oxman MN, Dandliker PS, Badger GJ, Ashikaga T, Dolin R. A Controlled Trial of Oral Acyclovir in the Therapy of Recurrent Herpes Simplex Genitalis: A Preliminary Report. *Amer J Med* 73 (Supplement): 338-341, 1982.

39. Richman DD, Cleveland PH, Oxman MN, Johnson KM. The Binding of Staphylococcal Protein a by the Sera of Different Animal Species. *J Immunol* 128: 2300-2305, 1982.
40. Richman DD, Cleveland PH, Oxman MN. A Rapid Enzyme Immunofiltration Technique Using Monoclonal Antibodies to Serotype Herpes Simplex Virus. *J Med Virol* 9: 299-305, 1982.
41. Whitley RJ, et al and NIAID Collaborative Antiviral Study Group. Vidarabine Therapy of Varicella in Immunosuppressed Patients. *J Pediatr* 101: 125-131, 1982.
42. Whitley RJ, et al and NIAID Collaborative Antiviral Study Group. Early Vidarabine Therapy to Control the Complications of Herpes Zoster in Immunosuppressed Patients. *New Engl J Med* 307: 971-976, 1982.
43. Whitley RJ, et al and NIAID Collaborative Antiviral Study Group. Herpes Simplex Virus Encephalitis: Clinical Assessment. *JAMA* 247: 317-320, 1982.
44. Cleveland PH, Richman DD, Redfield DC, Disharoon DR, Binder PS, Oxman MN. An Enzyme Immunofiltration Technique for Rapid Diagnosis of Herpes Simplex Virus Eye Infections in a Rabbit Model. *J Clin Microbiol* 16: 676-685, 1982.
45. Oxman MN, Richman DD, and Spector S. Management at Delivery of Mother and Infant When Herpes Simplex, Varicella-Zoster, Hepatitis or Tuberculosis Have Occurred During Pregnancy. In: *Current Clinical Topics in Infectious Diseases, Volume 4*, Edited by JS Remington and MN Swartz, McGraw-Hill, Boston, 1983
46. Redfield DC, Richman DD, Albanil S, Oxman MN, Wahl GM. Detection of Herpes Simplex Virus in Clinical Specimens by DNA Hybridization. *Diagn Microbiol and Infect Dis* 1: 117-128, 1983.
47. Richman DD, Cleveland PH, McCormick JB, Johnson KM. Antigenic Analysis of Strains of Ebola Virus: Identification of Two Ebola Serotypes. *J Infect Dis* 147: 268-271, 1983.
48. Richman DD. The Use of Staphylococcal Protein A in Diagnostic Virology. *Current Topics in Microbiol Immunol* 104: 159-176, 1983
49. Whitley RJ and the NIAID Collaborative Antiviral Study Group. Interim Summary of Mortality in Herpes Simplex Encephalitis and Neonatal Herpes Simplex Virus Infections: Vidarabine Versus Acyclovir. *J Antimicrobial Chemotherapy* 12 (Suppl B): 105-112, 1983.
50. Mertz GJ, Critchlow CW, Benedetti J, Reichman R, Dolin R, Connor J, Redfield DC, Savoia MC, Richman DD, Tyrell DL, Mimedzinski L, Portnoy J, Keeney RE, Corey L. Double Blind Placebo-Controlled Trial of Oral Acyclovir in First Episode Genital Herpes Simplex Virus Infection. *JAMA* 232: 1147-1151, 1984.
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