

CURRICULUM VITAE

NAME: LEVIN, JACK, M.D.
BORN: 11 October, 1932
MARITAL STATUS: Married Francine Corthesy, 13 April, 1975

UNIVERSITY TRAINING

1953 B.A., magna cum laude, Yale College, New Haven, CT
1957 M.D., cum laude, Yale University School of Medicine,
New Haven, CT

POSITIONS HELD

1957 - 1958 Intern in Medicine, Grace-New Haven Hospital,
New Haven, CT
1958 - 1960 Lieutenant, SG, U.S. Public Health Service
1958 - 1960 Clinical Associate, National Cancer Institute,
National Institutes of Health, Bethesda, MD
1960 - 1962 Assistant Resident in Medicine,
Grace-New Haven Hospital, New Haven, CT
1962 - 1964 Fellow in Medicine (Hematology), Johns Hopkins University
School of Medicine, Baltimore, MD
1963 Research Associate, Marine Biological Laboratory,
Woods Hole, MA
1964 - 1965 Chief Resident in Medicine, Yale-New Haven Medical Center,
New Haven, CT
1964 - 1965 Instructor in Medicine, Yale University
School of Medicine, New Haven, CT

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POSITIONS HELD (continued)

1965 - 1982	Physician, Out-Patient Department, The Johns Hopkins Hospital, Baltimore, MD
1965 - 1967	Instructor in Medicine, Johns Hopkins University School of Medicine, Baltimore, MD
1965 and 1967 - present	Independent Investigator, Marine Biological Laboratory, Woods Hole, MA
1967 - 1982	Physician, The Johns Hopkins Hospital, Baltimore, MD
1967 - 1971 1976 - 1978 1979 - 1982	Physician-in-Charge, Hematology Out-Patient Clinic, The Johns Hopkins Hospital, Baltimore, MD
1967 - 1970	Assistant Professor of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD
1968 - 1982	Visiting Physician, Baltimore City Hospitals, Baltimore, MD
1968 - 1982	Consultant in Hematology, Veterans Administration Medical Center, Baltimore, MD
1970 - 1978	Associate Professor of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD
1974 - 1978 1980 - 1982	Director, Hematology Course for Medical Students, Johns Hopkins University School of Medicine, Baltimore, MD
1975 - 1978	Executive Committee, Medical Scientist Training Program, Johns Hopkins University School of Medicine, Baltimore, MD
1978 - 1982	Professor of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD
1978 - 1982	Scientific Advisory Committee, Baltimore Aquarium, Baltimore, MD

- 1978 and
1980 - 1983 Faculty Member, Winter Course "Comparative Pathology of Marine Invertebrates," Marine Biological Laboratory, Woods Hole, MA
- 1978 - 1979 Visiting Fellow, The Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia
- 1978 - 1979 Senior Lecturer, Department of Medicine, University of Melbourne, Melbourne, Australia
- 1979 Academic Associate, Department of Medicine, University of Melbourne, Melbourne, Australia
- 1979 - 1982 Program Director, N.I.H. Training Grant ("Pathophysiology of Hemostasis")
- 1982 - present Professor of Laboratory Medicine and Professor of Medicine, University of California School of Medicine, San Francisco, CA
- 1982 - 1993 Chief, Hematology/Blood Bank Sections, Clinical Pathology Service, Veterans Administration Medical Center, San Francisco, CA
- 1982 - 1984 Transfusion Services Advisory Council, Irwin Memorial Blood Bank, San Francisco, CA
- 1983 - 2014 Associate Member, Cancer Research Institute, University of California School of Medicine, San Francisco, CA
- 1983 - 2014 Member, Hematology/Oncology Fellowship Training Program, University of California School of Medicine, San Francisco, CA
- 1985 - 2018 Medical and Scientific Advisory Committee, Irwin Memorial Blood Bank/Blood Centers of the Pacific, San Francisco, CA
- 1986 - 2013 Attending Physician, Medical Service, Veterans Administration Medical Center, San Francisco, CA
- 1986 - 2002 Attending Physician, Laboratory Medicine and Internal Medicine, Medical Center at the University of California, San Francisco, CA

1986 - 1987	Co-Director, Flow Cytometry Facility, Veterans Administration Medical Center, San Francisco, CA
1987 - 1990	Director, Flow Cytometry Facility, Veterans Administration Medical Center, San Francisco, CA
1988 - 1991	Consultant in Hematology, Letterman Army Medical Center, San Francisco, CA
1988 - 1993	Director, Hematology Section, Core Course for Laboratory Medicine Residents, University of California School of Medicine, San Francisco, CA
1996 - 2009	Director, Anticoagulation Clinic, Veterans Administration Medical Center, San Francisco, CA
1998 - 1999	Directeur de Recherche, Institut des Vaisseaux et du Sang(IVS), Paris, France
1998 - 2004	Editor-in-Chief, Journal of Endotoxin Research
2009 - present	Member, Honorary Editorial Board, Pathology and Laboratory Medicine International
2016 - 2019	Member, Low Endotoxin Recovery International Task Force, Parenteral Drug Association

HONORS AND AWARDS

1956	Josiah H. Macy, Jr. Foundation Summer Fellowship Yale University School of Medicine
1968 - 1973	John and Mary R. Markle Scholar in Academic Medicine
1970 - 1975	Research Career Development Awardee U.S. Public Health Service
1972	Royal Society of Medicine Travelling Fellowship Nuffield Department of Biochemistry, Oxford University School of Medicine, Oxford, England
1973	Visiting Professor, University of Ulm, Ulm, West Germany

HONORS AND AWARDS (continued)

- 1978 - 1979 Josiah Macy, Jr. Foundation Faculty Scholar Award
(at The Walter and Eliza Hall Institute of Medical Research
and the University of Melbourne, Melbourne, Australia)
- 1985 House Staff Award for Excellence in Teaching
Department of Laboratory Medicine,
University of California School of Medicine
- 1985 Frederik B. Bang Award (First Recipient) for Research
in Bacterial Endotoxins
- 1986 Visitor, Department of Medicine,
University of Melbourne, Melbourne, Australia
- 1998 Fellow, Foundation for Medical Research, Paris, France
- 1998 Visiting Professor, Biozentrum,
University of Basel, Basel, Switzerland
- 2003 Visiting Professor, Faculty of Medicine, University of Liège,
Belgium
- 2003 Fonds National de la Recherche Scientifique (FNRS)
Fellowship, University of Liège, Belgium
- 2003 Visiting Professor, Faculty of Medicine, University of Oslo,
Norway
- 2003 Foreign Member, Ph.D. Committee, Faculty of Medicine,
University of Oslo, Norway
- 2006 Elected Honorary Life Member, International Endotoxin and
Innate Immunity Society
- 2007 Elected to Membership in The Johns Hopkins University
Society of Scholars
- 2012 Distinguished Alumni Service Award, Yale University School of
Medicine

HONORS AND AWARDS (continued)

- 2014 Special Award from the Parenteral Drug Association in recognition of the 50th Anniversary of the discovery and description of the Limulus Amebocyte Lysate Test for the detection of bacterial endotoxins
- 2015 Honorary Patron of the IUCN Horseshoe Crab Species Specialist Group

BOARD CERTIFICATION

- 1958 National Board of Medical Examiners
- 1965 American Board of Internal Medicine
- 1974 American Board of Internal Medicine, Recertified

MEMBERSHIP IN SOCIETIES

Phi Beta Kappa

Yale Association of Class Officers

American Federation for Clinical Research

American Society of Hematology

Committee Membership

Nominating Committee, 1972 - 1973

Membership Committee, 1973 - 1974

Hemostasis Subcommittee, 1974 - 1976; Chairman, 1976

Scientific Affairs Committee, 1976

Nominating Committee, 1976 - 1977

Publications Committee, 1980 - 1984; Chairman, 1982 - 1984

Slide Bank Committee (Ad Hoc), 1985 - 1986; Chairman, 1985 - 1986

Scientific Subcommittee on Clinical Laboratory Hematology, 1987 - 1991;

Chairman, 1989 - 1990

Educational Affairs Committee, 1994 - 1998

Scientific Committee on Clinical Laboratory Hematology, 2001 - 2005;

Chairman, 2003 – 2005

Distinguished Emeritus status, 2014 -

MEMBERSHIP IN SOCIETIES (continued)

Member of the Corporation, Marine Biological Laboratory

Committee Membership

Marine Resources Committee, 1978 - 1986

Committee to Review the Biological Bulletin, 1988 - 1990

Advisory Committee, Film on Marine Science and Human Health, 1988 - 1990

Research Services Committee, 1990 - 1997

Summer Tour Program, 1983 - 1987

Sponsor, Frederik B. Bang Fellows

James A. Marcum, Ph.D., 1985

Fern Tablin, V.M.D., Ph.D., 1987

Member of the Corporation, Marine Biological Laboratory (continued)

General Scientific Meetings

Session Chairman, 1987

Special Editorial Board, 1991

Board of Trustees, 1988 - 1993

Fellow, American College of Physicians

Co-Director, Topics in Clinical Hematology: Hemostasis (Minicourse),
58th Annual Meeting, 1977

American Society for Experimental Pathology

Association of Yale Alumni, Yale University

Yale Club of Maryland, 1965 - 1982

Committee Membership

Alumni Schools Committee, 1966 - 1982

American Society for Clinical Investigation

Member, Editorial Board of the Journal, *Blood*, 1971 - 1976

International Society of Hematology

American Association of Pathologists

Hematology Committee, American College of Physicians,
Medical Knowledge Self-Assessment Program III

Society for Experimental Biology and Medicine

MEMBERSHIP IN SOCIETIES (continued)

International Society for Experimental Hematology
Committee Membership
Organization of Eleventh Annual Meeting, 1982

Southern Society for Clinical Investigation

Council on Thrombosis, American Heart Association

International Committee on Thrombosis and Haemostasis, Subcommittee on Factor IX

Baltimore Blood Club; President, 1974 - 1975

Tudor and Stuart Club of Johns Hopkins University; President, 1977 - 1978

Hamilton Street Club, Baltimore, MD

Committee on Normal Hematopoiesis, Evaluation of Research Needs
in Hematology, NIAMDD, NIH, 1980 - 1981

Western Association of Physicians
Committee Membership
Nominating Committee, 1989 - 1990

Society for Invertebrate Pathology

Member, Panel of Independent Assessors for Research Project Grants Awards,
National Health and Medical Research Council of Australia, 1982 - 1995

Yale Club of San Francisco
Committee Membership
Alumni Schools Committee, 1987 - 1998

West Coast Regional Interviewer, Yale University School of Medicine, 1983 - 1997

Society for Analytical Cytology

Cell Kinetics Society

California Academy of Medicine

Member, Editorial Board of the Journal, *Blood Cells*, 1985 - 1994

MEMBERSHIP IN SOCIETIES (continued)

Research Grant Assessor, Australian State Cancer Councils, 1986 - 1995

Member, Editorial Board of the Journal, *Experimental Hematology*, 1987 – 1990

International Endotoxin Society (Charter Member)

Committee Membership

Publications Committee, 1988 - 2000; Chairman, 1997 - 2000

Editor, Proceedings of the 2nd International Conference (1992)

Scientific Councillor, 1993 - 1997

Editor, Proceedings of the 3rd International Conference (1994)

Editor, Proceedings of the 4th International Conference (1996)

Editor-in-Chief, Journal of Endotoxin Research (official journal of the I.E.S.),
1998 – 2004

Chairman, Frederik B. Bang Award Committee, 1986 - present

Executive Committee, 2001 - 2005

Chairman, Ad Hoc Committee to establish the Sheldon E. Greisman Award, 2010

Honorary Life Member, 2006 - present

American Heart Association, California Affiliate

Committee Membership

Research Peer Review Subcommittee, 1988 - 1994

Vice-Chairman, North Subcommittee, 1991

Chairman, North Subcommittee, 1992 - 1994

Research Committee, 1992 - 1996

National Committee for Clinical Laboratory Standards

Member, Area Committee on Hematology, 1989 - 1996

Advisor, Area Committee on Hematology, 1996 - 2000

Member, Council of the National Reference System for the Clinical Laboratory,
1996 - 1997

American Society for Investigative Pathology

Member, Multicenter Study of Perioperative Ischemia (McSPI) Research Group

Consultant to Steering Committee, 1989 - 1997

Member, Advisory Board, 1990 - 2012

Mentor, Hematology Scientific Subgroup, 1991 - 2010

Member, Publications Committee, 2000 - 2012

Chairman, 2004 - 2012

Member, Editorial Board of the Journal, *Journal of Endotoxin Research*, 1993 - 2006

MEMBERSHIP IN SOCIETIES (continued)

Member, International Society for Artificial Cells, Blood Substitutes and Immobilization Biotechnology

Member, Editorial Board of the Journal, *Blood*, 1995 - 2000

American Association of Blood Banks

Member, AABB Ad Hoc Oxygen Therapeutics Committee, 1997 – 1998

XII Congress of the International Society on Thrombosis and Haemostasis (ISTH), Boston, MA, 2009

Member, International Scientific Advisory Board

PATENTS

U.S. Patent No. 3,915,805 (October 28, 1975): *Quantitative Detection of Endotoxin in Biological Fluids*

INTERNATIONAL CONFERENCES, CO-ORGANIZER

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| 1981 | International Conference on Endotoxin Standards and Limulus Amebocyte Lysate Use with Parenteral Drugs, Woods Hole, MA. |
| 1982 | Gordon Conference on Hemostasis, Discussion Leader (Megakaryocyte Growth and Development), Andover, NH |
| 1985 | Second International Conference on Endotoxins and Their Detection with the Limulus Amebocyte Lysate Test, Woods Hole, MA |
| 1985 | International Conference on Megakaryocyte Development and Function, Woods Hole, MA |
| 1987 | International Conference on Endotoxins II, Amsterdam, The Netherlands |
| 1990 | International Conference on Endotoxins III, Amsterdam, The Netherlands |

INTERNATIONAL CONFERENCES, CO-ORGANIZER (continued)

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| 1993 | International Conference on Endotoxins IV, Amsterdam,
The Netherlands |
| 1994 | Institut des Vaisseaux et du Sang (IVS) Workshop,
Regulation of Megakaryocytopoiesis, Paris, France |
| 1998 | Institut des Vaisseaux et du Sang (IVS),
Conference on Megakaryocytopoiesis, Paris, France |
| 2007 | International Symposium on the Science and Conservation of
Horseshoe Crabs, Long Island, NY |

PUBLICATIONS

1. Crelin ES and LEVIN, J. The prepuberal pubic symphysis and uterus in the mouse: their response to estrogen and relaxin. *Endocrinology* 57:730, 1955.
2. LEVIN J. The use of fetal electrocardiography in the evaluation of fetal distress and the detection of fetal viability. M.D. Thesis, Yale University School of Medicine, 1957.
3. LEVIN J, Sneider SE and Andrews JR. An appraisal of renal function and infection in advanced bladder cancer treated with ileal bladder construction and irradiation. *Surg Gynecol Obstet* 112:53, 1961.
4. LEVIN J, Andrews JR and Berlin NI. The effects of total body irradiation on some aspects of human iron metabolism. *J Clin Invest* 40:649, 1961.
5. LEVIN J. Accidental dental occupational exposure to ionizing radiation. *J Am Dent Assoc* 65:331, 1962.
6. Jackson DP, Schmid HJ, Zieve PD, LEVIN J and Conley CL. Nature of a platelet-agglutinating factor in serum of patients with idiopathic thrombocytopenic purpura. *J Clin Invest* 42:383, 1963.
7. Howard-Flanders P, LEVIN J and Theriot L. Reactions of deoxyribonucleic acid radicals with sulfhydryl compounds in x-irradiated bacteriophage systems. *Radiat Res* 18:593, 1963.
8. Braverman IM and LEVIN J. Dilantin-induced serum sickness. *Am J Med* 35:418, 1963.
9. LEVIN J. The incidence and prevention of infection after urethral catheterization. *Ann Intern Med* 60:914, 1964.
10. LEVIN J and Bang FB. The role of endotoxin in the extracellular coagulation of Limulus blood. *Bull Johns Hopkins Hosp* 115:265, 1964.
11. LEVIN J and Bang FB. A description of cellular coagulation in the Limulus. *Bull Johns Hopkins Hosp* 115:337, 1964.
12. LEVIN J and Conley CL. Thrombocytosis associated with malignant disease. *Arch Intern Med* 114:497, 1964.
13. LEVIN J and Cluff LE. Platelets and the Shwartzman phenomenon. *J Exp Med* 121:235, 1965.

14. LEVIN J and Cluff LE. Endotoxemia and adrenal hemorrhage: a mechanism for the Waterhouse-Friderichsen syndrome. *J Exp Med* 121:247, 1965.
15. LEVIN J and Cohen LS. Serum glutamic oxaloacetic transaminase after direct-current electroshock. *N Engl J Med* 274:150, 1966.
16. LEVIN J. Diphtheroid bacterial endocarditis after insertion of a Starr valve. *Ann Intern Med* 64:396, 1966.
17. LEVIN J and Beck E. A re-appraisal of the role of blood coagulation and platelets in the generalized Shwartzman phenomenon. *Thromb Diath Haemorrh* 15:519, 1966.
18. LEVIN J. Elevation of pericardial fluid sugar in a patient with idiopathic cholesterol pericarditis. *Clin Chim Acta* 14:717, 1966.
19. LEVIN J. Blood coagulation and endotoxin in invertebrates. *Fed Proc* 26:1707, 1967.
20. LEVIN J and Bang FB. Clottable protein in *Limulus*: its localization and kinetics of its coagulation by endotoxin. *Thromb Diath Haemorrh* 19:186, 1968.
21. LEVIN J. Diagnosis and treatment of the hemophilias. *Md State Med J* 17:75, 1968.
22. Evatt BL and LEVIN J. Measurement of thrombopoiesis in rabbits using ⁷⁵selenomethionine. *J Clin Invest* 48:1615, 1969.
23. Hall JG, LEVIN J, Kuhn JP, Ottenheimer EJ, van Berkum KAP and McKusick VA. Thrombocytopenia with absent radius (TAR). *Medicine (Baltimore)* 48:411, 1969.
24. LEVIN J, Tomasulo PA and Oser RS. Detection of endotoxin in human blood and demonstration of an inhibitor. *J Lab Clin Med* 75:903, 1970.
25. LEVIN J. Thrombopoiesis and thrombopoietin. In *Hemopoietic Cellular Proliferation*. F Stohlman Jr, Ed. Grune & Stratton, New York, 1970, p 299.
26. Shreiner DP and LEVIN J. Detection of thrombopoietic activity in plasma by stimulation of suppressed thrombopoiesis. *J Clin Invest* 49:1709, 1970.
27. LEVIN J. Humoral control of thrombopoiesis. In *Formation and Destruction of Blood Cells*. TJ Greenwalt and GA Jamieson, Eds. JB Lippincott, Philadelphia, 1970, p 143.

28. LEVIN J, Poore TE, Zauber NP and Oser RS. Detection of endotoxin in the blood of patients with sepsis due to gram-negative bacteria. *N Engl J Med* 283:1313, 1970.
29. Cooper JF, LEVIN J and Wagner HN Jr. Quantitative comparison of in vitro and in vivo methods for the detection of endotoxin. *J Lab Clin Med* 78:138, 1971.
30. LEVIN J, Shreiner DP and Evatt BL. Studies of thrombopoiesis using ⁷⁵Se-selenomethionine. In *Platelet Kinetics*. JM Paulus, Ed. North-Holland Publishing Company, Amsterdam, 1971, p 126.
31. LEVIN J, Shreiner DP and Evatt BL. Assay of thrombopoietin in rabbits using ⁷⁵Se-selenomethionine. In *Platelet Kinetics*. JM Paulus, Ed. North-Holland Publishing Company, Amsterdam, 1971, p 152.
32. LEVIN J, Poore TE, Young NS, Margolis S, Zauber NP, Townes AS and Bell WR. Gram-negative sepsis: detection of endotoxemia with the Limulus test. With studies of associated changes in blood coagulation, serum lipids, and complement. *Ann Intern Med* 76:1, 1972.
33. LEVIN J. Chemotherapy and thrombopoiesis. In *Cancer Chemotherapy II*. I Brodsky, SB Kahn and JH Moyer, Eds. Grune & Stratton, New York, 1972, p 263.
34. Brown CH III, Kvols LK, Hsu T-H and LEVIN J. Factor IX deficiency and bleeding in a patient with Sheehan's syndrome. *Blood* 39:650, 1972.
35. LEVIN J. Genetic heterogeneity in antihemophilic globulin deficiency. *Birth Defects: Original Article Series* 8:129, 1972
36. Young NS, LEVIN J and Prendergast RA. An invertebrate coagulation system activated by endotoxin: evidence for enzymatic mediation. *J Clin Invest* 51:1790, 1972.
37. Bennett B, Ratnoff OD and LEVIN J. Immunologic studies in von Willebrand's disease. *J Clin Invest* 51:2597, 1972.
38. Bell WR, Miller RE and LEVIN J. Inhibition of the generalized Shwartzman reaction by hypofibrinogenemia. *Blood* 40:697, 1972.
39. Niskanen E, Quesenberry P, Stohlman F Jr, LEVIN J and Ryan M. Colony-stimulating and inhibiting factors in sera from normal and endotoxin-treated CF₁ mice. *Proc Soc Exp Biol Med* 143:176, 1973.

40. LEVIN J. Endotoxin and endotoxemia. *N Engl J Med* 288:1297, 1973 (editorial).
41. Chen CH, Johnson AG, Kasai N, Key BA, LEVIN J and Nowotny A. Heterogeneity and biological activity of endotoxic glycolipid from *Salmonella minnesota* R595. *J Infect Dis* 128:S43, 1973.
42. Shreiner DP and LEVIN J. Regulation of thrombopoiesis. In *Haemopoietic Stem Cells*. Ciba Foundation Symposium 13 (new series). Elsevier. Excerpta Medica. North-Holland, Amsterdam, 1973, p 225.
43. Butler T, LEVIN J, Cu DQ and Walker RI. Bubonic plague: detection of endotoxemia with the Limulus test. *Ann Intern Med* 79:642, 1973.
44. LEVIN J. Pathophysiology of drug-induced thrombocytopenia. In *Drugs and Hematologic Reactions*. NV Dimitrov and JH Nodine, Eds. Grune & Stratton, New York, 1974, p 87.
45. LEVIN J. Effects of oral antidiabetic and diuretic agents on platelets. In *Drugs and Hematologic Reactions*. NV Dimitrov and JH Nodine, Eds. Grune & Stratton, New York, 1974, p 263.
46. Evatt BL, Shreiner DP and LEVIN J. Thrombopoietic activity of fractions of rabbit plasma: studies in rabbits and mice. *J Lab Clin Med* 83:364, 1974.
47. Herman CM, Kraft AR, Smith KR, Artnak EJ, Chisholm FC, Dickson LG, McKee AE Jr, Homer LD and LEVIN J. The relationship of circulating endogenous endotoxin to hemorrhagic shock in the baboon. *Ann Surg* 179:910, 1974.
48. LEVIN J, Evatt BL and Shreiner DP. Measurement of plasma thrombopoiesis stimulating activity using selenomethionine-⁷⁵Se: studies in rabbits and mice. In *Platelets: Production, Function, Transfusion, and Storage*. MG Baldini and S Ebbe, Eds. Grune & Stratton, New York, 1974, p 63.
49. Oberle MW, Graham GG and LEVIN J. Detection of endotoxemia with the Limulus test: preliminary studies in severely malnourished children. *J Pediatr* 85:570, 1974.
50. Glew RH and LEVIN J. Failure to demonstrate circulating endotoxin in malaria. *Proc Soc Exp Biol Med* 148:508, 1975.
51. Tomasulo PA, March SC and LEVIN J. Tritiation of endotoxin. *Biochim Biophys Acta* 400:399, 1975.

52. LEVIN J and Algazy KM. Hematologic disorders. In *Medical Complications During Pregnancy*. GN Burrow and TF Ferris, Eds. WB Saunders, Philadelphia, 1975, p 689.
53. Murer EH, LEVIN J and Holme R. Isolation and studies of the granules of the amebocytes of *Limulus polyphemus*, the horseshoe crab. *J Cell Physiol* 86:533, 1975.
54. Kitchens CS, LEVIN J and Smith WK. Hemorrhagic diathesis in a carrier of hemophilia B. *Am J Med* 60:138, 1976.
55. Butler T, LEVIN J, Linh NN, Chau DM, Adickman M and Arnold K. *Yersinia pestis* infection in Vietnam. II. Quantitative blood cultures and detection of endotoxin in the cerebrospinal fluid of patients with meningitis. *J Infect Dis* 133:493, 1976.
56. Sonoda T, Solomon A, Krauss S, Cruz P, Jones FS and LEVIN J. Use of prothrombin complex concentrates in the treatment of a hemophilic patient with an inhibitor of Factor VIII. *Blood* 47:983, 1976.
57. Zieve PD and LEVIN J. Disorders of Hemostasis. WB Saunders, Philadelphia, 1976.
58. LEVIN J. Blood coagulation in the horseshoe crab (*Limulus polyphemus*): a model for mammalian coagulation and hemostasis. In *Animal Models of Thrombosis and Hemorrhagic Diseases*. (Proceedings of a Symposium of the National Academy of Sciences.) U.S. Department of Health, Education, and Welfare, Washington, DC. DHEW Publication No. (NIH) 76-982, 1976, p 87.
59. Evatt BL, Spivak JL and LEVIN J. Relationships between thrombopoiesis and erythropoiesis: with studies of the effects of preparations of thrombopoietin and erythropoietin. *Blood* 48:547, 1976.
60. Greenberg PL, Bax I, LEVIN J and Andrews TM. Alteration of colony-stimulating factor output, endotoxemia, and granulopoiesis in cyclic neutropenia. *Am J Hematol* 1:375, 1976.
61. Shreiner DP and LEVIN J. The effects of hemorrhage, hypoxia, and a preparation of erythropoietin on thrombopoiesis. *J Lab Clin Med* 88:930, 1976.
62. Sack GH Jr, LEVIN J and Bell WR. Trousseau's syndrome and other manifestations of chronic disseminated coagulopathy in patients with neoplasms: clinical, pathophysiologic, and therapeutic features. *Medicine* (Baltimore) 56:1, 1977.

63. Tomasulo PA, LEVIN J, Murphy PA and Winkelstein JA. Biological activities of tritiated endotoxins: correlation of the Limulus lysate assay with rabbit pyrogen and complement activation assays for endotoxin. *J Lab Clin Med* 89:308, 1977.
64. Rickles FR, LEVIN J, Hardin JA, Barr CF and Conrad ME Jr. Tissue factor generation by human mononuclear cells: effects of endotoxin and dissociation of tissue factor generation from mitogenic response. *J Lab Clin Med* 89:792, 1977.
65. Zauber NP and LEVIN J. Factor IX levels in patients with hemophilia B (Christmas disease) following transfusion with concentrates of Factor IX or fresh frozen plasma (FFP). *Medicine (Baltimore)* 56:213, 1977.
66. Burnett JW, Lamon JM and LEVIN J. Haemophilia, hepatitis and porphyria. *Brit J Dermatol* 97:453, 1977.
67. Galloway RE, LEVIN J, Butler T, Naff GB, Goldsmith GH, Saito H, Awoke S and Wallace CK. Activation of protein mediators of inflammation and evidence for endotoxemia in *Borrelia recurrentis* infection. *Am J Med* 63:933, 1977.
68. Quesenberry P, Cohen H, LEVIN J, Sullivan R, Bealmear P and Ryan M. Effects of bacterial infection and irradiation on serum colony-stimulating factor levels in tolerant and nontolerant CF₁ mice. *Blood* 51:229, 1978.
69. Butler T, Bell WR, LEVIN J, Linh NN and Arnold K. Typhoid fever. Studies of blood coagulation, bacteremia, and endotoxemia. *Arch Intern Med* 138:407, 1978.
70. Koster F, LEVIN J, Walker L, Tung KSK, Gilman RH, Rahaman MM, Majid A, Islam S and Williams RC Jr. Hemolytic-uremic syndrome after Shigellosis. Relation to endotoxemia and circulating immune complexes. *N Engl J Med* 298:927, 1978.
71. Sourek J, Tichy M and LEVIN J. Effects of certain cations (Fe, Zn, Mg, and Ca) on bacterial endotoxins. *Infect Immun* 21:648, 1978.
72. LEVIN J. Chemotherapy and thrombopoiesis. In *Cancer Chemotherapy III*. I Brodsky, SB Kahn and JF Conroy, Eds. Grune & Stratton, New York, 1978, p 313.
73. Triger DR, Boyer TD and LEVIN J. Portal and systemic bacteraemia and endotoxaemia in liver disease. *Gut* 19:935, 1978.

74. Rickles FR, LEVIN J, Rosenthal DI and Atkins E. Functional interaction of concanavalin A and bacterial endotoxin (lipopolysaccharide): effects on the measurement of endogenous pyrogen release, human mononuclear cell tissue factor activation, lymphocyte DNA synthesis, and gelation of *Limulus* amebocyte lysate. *J Lab Clin Med* 93:128, 1979.
75. Sourek J, Trnka T, LEVIN J, Roubal J and Michalec C. Characteristics of lipid A-protein complex from endotoxin of *Shigella dysenteriae* Type 1 (S and R strains). *Infect Immun* 23:465, 1979.
76. LEVIN J and Evatt BL. Humoral control of thrombopoiesis. *Blood Cells* 5:105, 1979.
77. Quesenberry P, LEVIN J, Zuckerman K, Rencricca N, Sullivan R and Tyler W. Stem cell migration induced by erythropoietin or haemolytic anaemia: the effects of actinomycin and endotoxin contamination of erythropoietin preparations. *Brit J Haematol* 41:253, 1979.
78. Alving BM, Evatt BL, LEVIN J, Bell WR, Ramsey RB and Levin FC. Platelet and fibrinogen production: relative sensitivities to endotoxin. *J Lab Clin Med* 93:437, 1979.
79. Mosesson MW, Wolfenstein-Todel C, LEVIN J and Bertrand O. Characterization of amebocyte coagulogen from the horseshoe crab (*Limulus polyphemus*). *Thromb Res* 14:765, 1979.
80. Zuckerman KS, Quesenberry PJ, LEVIN J and Sullivan R. Contamination of erythropoietin by endotoxin: in vivo and in vitro effects on murine erythropoiesis. *Blood* 54:146, 1979.
81. LEVIN J. The reaction between bacterial endotoxin and amebocyte lysate. In *Biomedical Applications of the Horseshoe Crab (Limulidae)*. E Cohen, FB Bang, J Levin, et al., Eds. Alan R Liss, New York, 1979, p 131.
82. Mosesson MW, Wolfenstein-Todel C, LEVIN J and Bertrand O. Structural studies of the coagulogen of amebocyte lysate from *Limulus polyphemus*. In *Biomedical Applications of the Horseshoe Crab (Limulidae)*. E Cohen, FB Bang, J Levin, et al., Eds. Alan R Liss, New York, 1979, p 159.
83. Rickles FR, Rick PD, Armstrong PB and LEVIN J. Binding studies of radioactive lipopolysaccharide with *Limulus* amebocytes. In *Biomedical Applications of the Horseshoe Crab (Limulidae)*. E Cohen, FB Bang, J Levin, et al., Eds. Alan R Liss, New York, 1979, p 203.

84. LEVIN J. The Limulus test: a status report. In *Biomedical Applications of the Horseshoe Crab (Limulidae)*. E Cohen, FB Bang, J Levin, et al., Eds. Alan R Liss, New York, 1979, p 235.
85. Rickles FR, LEVIN J, Atkins E and Quesenberry P. Endotoxin contamination of biological reagents: detection and removal of endotoxin with Limulus amebocyte lysate. In *Biomedical Applications of the Horseshoe Crab (Limulidae)*. E Cohen, FB Bang, J Levin, et al., Eds. Alan R Liss, New York, 1979, p 485.
86. Evatt BL, LEVIN J and Algazy KM. Partial purification of thrombopoietin from the plasma of thrombocytopenic rabbits. *Blood* 54:377, 1979.
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