

CURRICULUM VITAE

GERARD M. TURINO, MD

RESEARCH: Current research focuses on mechanisms of lung matrix injury and lung matrix remodeling; alveolar capillary fluid flux; lung elastin peptide quantification as a measure of alveolar matrix injury; the evaluation of specific protease inhibitors in the therapy of certain diseases of the lung.

EDUCATION

Princeton University, AB *cum laude*, 1945

Columbia University College of Physicians & Surgeons, MD, 1948

Columbia Univ Division, Bellevue Hospital: Intern in Medicine, 1948-49

Columbia Univ Division: Bellevue Hospital Assistant Resident in Medicine, 1949-50

New Haven Hospital, Resident in Medicine, 1950-51

Columbia University Division, Bellevue Hospital: Chief Resident in Medicine, 1953-54

Fellowships in Pulmonary Medicine:

Columbia Univ College of Physicians & Surgeons, 1954-60

Fellow-Pulmonary Medicine: National Foundation for Infantile Paralysis, 1954-56

Senior Fellow-Pulmonary Med: New York Heart Association, 1956-60

CAREER HISTORY

COLUMBIA COLLEGE OF PHYSICIANS/SURGEONS/PRESBYTERIAN HOSPITAL

Distinguished Service Award in the Clinical Sciences – May 17, 2017

John H Keating Sr. Professor of Medicine, 1984-present

Professor of Medicine, Columbia University, 1972-present

Associate Professor of Medicine, Columbia University, 1967-72

Assistant Professor of Medicine, Columbia University, 1960-67

Associate in Medicine, Columbia University, 1957-60

Attending Physician, Presbyterian Hospital, 1972-present

Associate Attending Physician, Presbyterian Hospital, 1967-72

Assistant Attending Physician, Presbyterian Hospital, 1961-67

Chief of Medical Service Subunit East, 1976-1982

Director: Cardiovascular Laboratory, Columbia-Presbyterian Med Center, 1966-73

Career Investigator-Pulmonary Medicine: Health Research Council of NY City, 1961-71

OFFICES

Representative from St. Luke's-Roosevelt Hospital Center: Faculty Council of
Columbia University College of Physicians & Surgeons, 1993

Elected Member: Columbia University Senate, 1981

COMMITTEES

Member: Appointments & Promotions Committee, Department of Medicine,
Columbia University College of Physicians & Surgeons, 1983-present

Chairman: Appointments & Promotions Committee, Columbia P&S, 1982-83

Member: Appointments & Promotions Committee, Columbia P&S, 1979-81

HONORS

Columbia P&S Alumni Association: Gold Medal, 1987

Columbia P&S Alumni Medal, 1982

Columbia P&S Alumni Association: Silver Medal, 1979

Joseph Mather Smith Prize for Research: Columbia P&S, 1965

ST. LUKE'S-ROOSEVELT HOSPITAL CENTER

Medical Excellence Award, Presented at annual Gala by SLRHC, 2010

Director, James P. Mara Center for Lung Disease, December 1997-present

Director: Alpha₁ Antitrypsin Deficiency Registry, St. Luke's-Roosevelt Hospital Center, 1989-present

Director Emeritus, Department of Medicine, 1991-present

Senior Attending Physician, 1983-present

Director, Department of Medicine, 1983-91

Founding Director, James P. Mara Center for Lung Disease, 1999-present

OTHER HOSPITAL/TEACHING APPOINTMENTS

Consultant-Pulmonary Medicine: VA Hospital, East Orange NJ, 1962-67, 1981-1990

Attending Physician: Harlem Hospital, New York NY, 1972-82

Consultant: Englewood Hosp, NJ, Cardiorespiratory Disease, 1969-80

Consultant: Hackensack Hospital, NJ, 1975-present

MILITARY SERVICE

Captain, United States Air Force Medical Corps, staff member of the Division of Medical Science, National
Research Council, National Academy of Sciences, Washington DC, 1951-1953

CERTIFICATIONS

Certified by the American Board of Internal Medicine, 1956

Certified by the National Board of Medical Examiners, 1950

New York State Medical License #076025-1

US Controlled Substance Registration Certificate #AT1756406

CAREER RELATED ACTIVITIES

NEW YORK HEART ASSOCIATION

Chairman: Task Force on Organizational Structure, 1991-1993
Member: 75th Anniversary Committee, NY Heart Association, 1989-1990
President-Elect, 1979-1981 and President, NY Heart Assoc, 1981-1983
Chairman, Committee on Professional Education, 1965-1970

THE AMERICAN LUNG ASSOCIATION AND AMERICAN THORACIC SOCIETY

Breathing for Life Award, American Thoracic Society, 2013
Consultant on Scientific Affairs, Amer Thoracic Soc, 1992-present
Co-Chairman: ALA/ATS Asthma Research Initiative (ASTHMATTACK!), 1991-present
Chairman: ALA/ATS Scientific Advisory Council, 1989-present
Member: J. Burns Amberson Lecture Committee, Amer Thoracic Society, 1980 & 1991
Chairman: Research Coordinating Committee, ALA/ATS, 1988-1991
Member: Board of Directors, ALA, 1986-1989
Member: Long Range Planning Committee, ALA/ATS, 1980-1981 & 1986-89
Chairman: Pulmonary Circulation Section, ATS, 1978-1979
Member: Annual Meeting Committee, ATS, 1973
Chairman: American Thoracic Society and American Heart Association Documents Committee, 2001-2005, and Co-Chairman 2006-present.

THE CHRONIC OBSTRUCTIVE PULMONARY DISEASE FOUNDATION (COPD FOUNDATION)

Research Achievement Award, COPD Foundation, 2010
Chairman: Board of Trustees, COPD Foundation, 2000-2004
Member, Board of Trustees, COPD Foundation, 2004-Present

THE ALPHA ONE FOUNDATION

Member of the Medical Scientific Advisory Committee, 2000-present

SPECIAL RECOGNITION

Lifetime Achievement Award, COPD-6 Conference, Birmingham UK
President: American Thoracic Society, 1987-1988
J Burns Amberson Lecture: International Meeting, 1985
Edward Livingston Trudeau Prize: For research, teaching, and clinical care in lung disease, 2003
Invited Participant: Gordon Conferences
1) on Elastin, 1981
2) on Non-Respiratory Function of the Lung, 1976 and 1979
3) Gordon Conference on Elastin, August 1993

NATIONAL HEART, LUNG AND BLOOD INSTITUTE, NIH

Principal Investigator: NHLBI/NIH Grant, Program Project HL-15832, "Chemical-Structural Predispositions to Lung Injury", 1973-1987

Member: Steering Committee, NHLBI/NIH National Registry for α_1 Antitrypsin

Deficiency, 1988-present

Member: NHLBI/NIH Data and Safety Monitoring Board for the project "MultiCenter Study on Pulmonary Complications of HIV Infection", 1988-present.

Member: NHLBI/NIH Data Safety Monitoring Board for the COPD Multicenter Coalition, 2005-Present.

Chairman: Review Committee for a Multicenter Study in Acute Respiratory Disease Syndrome, 1994

Chairman: Review Committee for a Multicenter Study on Pulmonary Sarcoidosis, 1994

Chairman: Review Committee for a Multicenter Study in Mechanisms of Asthma, 1993

Chairman: NHLBI/NIH Special Emphasis Panel for the Asthma Clinical Research Network Awards, July 15-16, 1993

Chairman: NHLBI/NIH Review Committee for the Tuberculosis Academic Award, June 8-9, 1993

Member: Advisory Committee, NHLBI/NIH Multicenter Study on Pulmonary Embolism, 1985-1989

Chairman: NHLBI/NIH Pulmonary Disease Advisory Committee, 1985-1987

Appointed Member: Heart & Lung Research Review Committee, 1976-1980

Consultant: NHLBI/NIH Epidemiology Study Section, 1973

Member: Task Force on Respiratory Diseases, 1972-1973

Chairman: NHLBI/NIH Panel on Chemical Structure & Function of the Lung, 1972

Consultant: NHLBI/NIH Pathology Study Section B, 1972

SPECIALIZED CENTERS OF RESEARCH (SCOR), NHLBI/NIH

Member: Parent Review Committee for Specialized Centers of Research (SCOR) for Adult Respiratory Disease Syndrome (ARDS), Acute Lung Injury, Cystic Fibrosis and Sleep Apnea, January-March, 1993

Chairman: Parent Review Committee for SCOR Programs in Airway and Interstitial Lung Disease, 1992-present

Chairman: NHLBI/NIH Parent Review Committee for Specialized Centers of Research (SCOR) in Lung Disease, 1990-1991

Consultant: NHLBI/NIH SCOR Lung Research Program, Vanderbilt University, 1991

Consultant: NHLBI/NIH SCOR Lung Research Program, University of Iowa School of Medicine, 1990

Member: NHLBI/NIH SCOR Pulmonary Disease Review Panel, 1972 and 1980-81

AMERICAN BUREAU FOR MEDICAL ADVANCEMENT IN CHINA (ABMAC)

President of the Board of Directors: 1994-present

Member: Board of Directors, 1991-1994

AMERICAN HEART ASSOCIATION

HONORS

Distinguished Achievement Award, Scientific Councils of the American Heart Association, 1989

Dickinson Richards Lecturer, American Heart Assoc, American Heart Association Award of Merit, 1989

OFFICES

Regional Vice President, Upper Atlantic Region, 1985-1986

Vice President for Councils, AHA, 1976-1978

Member of the Board of Directors, AHA, 1975-1978

COMMITTEES AND COUNCILS

Chairman: American Heart Association Cardiopulmonary Council, 1978-1979

Chairman: American Heart Association Program Committee, Council on Cardiopulmonary Disease, 1973

Chairman: American Heart Assoc Professional Education Committee, Upper Atlantic Region, 1970-1972

Member: American Heart Association Committee on Professional Education, 1970-1972

Chairman: AHA Committee on Exhibits, 1966-1969

NEW YORK ACADEMY OF MEDICINE

Member: Committee on Honors and Awards, NY Academy of Med, 1993

Elected to the Nominating Committee, NY Academy of Medicine, 1992

NEW YORK LUNG ASSOCIATION

Member: Research and Scientific Advisory Committee, New York Lung Association, 1973-75 and 1985-91

Chairman: Research and Scientific Advisory Committee, New York Lung Association 1974-76

SPECIAL ADVISORY COMMITTEES

Consultant: Review Panel, United States Center for Lung Transplantation, Department of Health and Human Services, 1995-present

Ad-Hoc Member: Research Manpower Review Committee, June 1989

Member: Comite Scientifique, Society de Pneumologie de Langue Francaise, 1988

Member: Parker B. Francis Foundation Scientific Advisory Board, 1975-79 and 1984-88

Chairman: Pulmonary-Allergy Advisory Committee of the United States Food and Drug Administration, 1985

Chairman: American Physiological Society Steering Committee, Respiratory Section, 1981-82

VISITING PROFESSORSHIPS

Visiting Lecturer: Univ of Santiago de Compostelo, Spain, 1986, 1988-90, 1993, 1996, 1999

Honorary President: Sociedade Galega de Patoloxia Respiratoria, Spain, 1996
Visiting Lecturer: Republic of China Thoracic Society General Meeting, December 1995
Visiting Professor: Peking Union Medical College, Beijing China, October 10-26, 1994
Visiting Professor of Medicine to the Republic of China (Taiwan): American Bureau for Medical Advancement in China, Feb-March, 1992
Invited Lecturer: Republic of China Thoracic Society Annual Meeting, Taipei, December 1992
Franz J. Ingelfinger Visiting Professor: Boston University and Boston City Hospital, June 1990
Visiting Lecturer: University of Santiago School of Medicine, Santiago, Chile, July 1989
Leo Brereton Lecturer and Visiting Professor: Robert Wood Johnson School of Medicine, November, 1988
Tad Badger Lecturer & Visiting Professor: Peter Bent Brigham Hosp, 1987
Visiting Professor: Pulmonary Div, Massachusetts General Hosp, Nov 1985
Visiting Professor: Rutgers Univ College of Medicine, March 1984
Visiting Professor: University of California, San Francisco, Cardiovascular Institute, 1984
Visiting Professor: Univ of North Carolina/Duke Univ Colleges of Medicine, April 1983
Visiting Professor: University of Calgary, January 12-13, 1982
Visiting Professor: Univ of Alabama, Dept of Medicine, 1981
Visiting Professor: Rutgers Univ College of Med, May 28, 1980
Visiting Professor: Baylor Univ College of Med, May 15-18, 1980
Visiting Professor of Medicine: University of Illinois School of Medicine, December 1979
Visiting Professor of Medicine: Brown University School of Medicine and Rhode Island General Hospital, June 22-23, 1976
Visiting Professor of Medicine: University of Pahlavi, Shiraz, Iran, January 28-February 22, 1975
Visiting Professor of Medicine: Washington University School of Medicine, St. Louis MO, December 30, 1974
Visiting Senior Lecturer: Department of Medicine, University of Sheffield, Sheffield, England, 1963

EDITORIAL APPOINTMENTS

International Journal of Respiration: Editorial Board, 1969-present
American Journal of Medicine: Consulting Editor, 1974-91
Publications Policy Committee, American Lung Association, 1986-89
Amer Review of Respiratory Disease: Editorial Board, 1970-1976
Reviewer of manuscripts for American Review of Respiratory Disease, Annals of Internal Medicine, CHEST, JAMA, Journal of Applied Physiology, Journal of Clinical Investigation, Journal of Laboratory and Clinical Investigation and Science, 1960 - present
Editor and Contributor for the American Society of Internal Medicine: Medical Management Self-Assessment Program, 1996-January, 1997

PROFESSIONAL SOCIETIES

American Society for Clinical Investigation
Association of American Physicians
Harvey Society
American Association for the Advancement of Science (Fellow)
American Federation for Clinical Research
Society of the Alumni of Bellevue Hospital
American Physiological Society
American College of Physicians (Fellow)
Society for Experimental Biology and Medicine
New York Clinical Society
New York Medical and Surgical Society
New York Academy of Medicine

BIBLIOGRAPHY: ORIGINAL PAPERS AND REVIEWS

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2017 --- 2018

1. Ma,S, Lin, YY, Cantor, JO, Chapman, KR, Sandhouse, RA, Fries, M, Edelman, JM, McElvaney, NG and Turino, GM: The Effect of Alpha-1 Protease Inhibitor on Biomarkers of Elastin degradation in Alpha-1 Antitrypsin Deficiency: An Analysis of the RAPID/RAPID Extension Trials. J COPD Foundation, Volume 4 . Number 1 . 2017
- 2.- Liu X, Ma S, Turino GM and Cantor JO: The pattern of Elastic Fiber Breakdown in Bleomycin-duced Pulmonary Fibrosis May revlect Microarchitectura Changes. Lung 2017, **195:92-99**.

2014 --- 2016)

- 1.- TURINO GM, MA SHUREN, CANTOR JO AND LIN YY: BIOMARKERS IN ALPHA-1 ANTITRIPSIN DEFICIENCY CHRONIC OBSTRUCTIVE PULMONARY DISEASE. ANNALS AMER THORAC SOCIETY, 2016, VOL **13(4) 336-40**.
- 2.- Cantor JO, Armand G and Turino G: Lung hyaluronan levels are decreased in alpha-1 antitrypsin deficiency COPD. Science Direct Journal 2015, **109:656-59**
- 3.- Liu X, Ma S, Liu S, Liu M, Turino G, Cantor J. [The Ratio of Free to Bound Desmosine and Isodesmosine May Reflect Emphysematous Changes in COPD](#). Lung. 2015 Jun;193(3):329-34. doi: 10.1007/s00408-015-9712-z. Epub 2015 Mar 12.
- 4.- Minkin R, Sandhu G, Grosu H, Tartell L, Ma S, Lin YY, Eden E, Turino GM. Desmosine and Isodesmosine as a Novel Biomarker for Pulmonary Arterial Hypertension: A Pilot Study. American Journal of Therapeutics 0, 1–6 (2015)
- 5.- Turino GM, Ma S, Cantor JO, Lin YY. Biomarkers in Alpha-1 Antitrypsin Deficiency Chronic Obstructive Pulmonary Disease. Ann Am Thorac Soc Vol , No , pp 1–5, 2016 (Received in original form September 1, 2015; accepted in final form November 12, 2015)

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2013 -- - 2014

- 1.- Murakami Y, Suzuki R, Yanuma H, He J, Ma S, Turino GM, Lin YY, Usuki T. Synthesis and LC-MS/MS analysis of desmosine-CH₂, a potential internal standard for the degraded elastin biomarker desmosine. Org. Biomol. Chem., 2014, 12, 9887–9894
- 2.- Ma S, Turino GM, Hayashi T, Yanuma H, Usuki T and Lin YY: Stable deuterium internal standard for the isotope-dilution on LC-MS/MS analysis of elastin degradation. Analytic Biochemistry 2013, **440:158-65**.
- 3.- S Ma S, Lin YY, He J, Rouhani FN, Brantly M and Turino GM: Alpha-1 Antitrypsin Augmentation Therapy and Biomarkers of Elastin Degradation. . J COPD 2013, **(10(4):473-81**.

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2012:

1.- SIEDLINSKI M, KLANDERMAN B, SANDHAUS RA, BARKER AF, BRANTLY ML, EDEN E, McELVANEY NG, RENNARD SI, STOCKS JOM STOLLER JK, STRANGE C, **TURINO GM**, CAMPBELL EJ AND DEMEO DL: ASSOCIATION OF CIGARETTE SMOKING AND CRP LEVELS WITH DNA METHYLATION ALPHA-1 ANTITRYPSIN DEFICIENCY. EPIGENETICS 2012 **JUL;7(7):**720-28.

2- **TURINO GM**, LIN YY, HE J, CANTOR JO AND MA S: ELASTIN DEGRADATION: AN EFFECTIVE BIOMARKER IN COPD. COPD 2012 **Aug;9(4):**435-38

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2011:

1.- Cantor JO, Cerreta JM, Ochoa M, Ma S, Liu M and **Turino GM**: Therapeutic effects of hyaluronan on smoke-induced elastic fiber injury: Does delayed treatment affect efficacy? LUNG 2011: **189:**51-56.

2.- Ma S, **Turino GM** and Lin YY: Quantitation of desmosine and isodesmosine in urine, plasma and sputum by LC-MS/MS as biomarkers for elastin degradation. J Chromatogr B Analyt Technol Biomet Life Sci May 13, 2011. J Chromatogr B Analyt Technol Biomet Life Sci 13, 2011, **879(21):**1893-98.

3.- Slowik N, Ma S, He J, Lin YY, Soldin O, Robbins R and **Turino GM**: The effect of second-hand smoke exposure on markers of elastin degradation. CHEST 2011, **140(4):**946-53

4. - Ma S, Lin YY, He J, Rouhani FN, Brantly M and Turino GM MD: Alpha-1 Antitrypsin Augmentation Therapy and Biomarkers of Elastin Degradation. AJRCCM 2011, **186(6):**637.41

5.- **Turino GM**, Shuran Ma, Yong Y. Lin, Jerome O. Cantor and Maurizio Luisetti: Matrix elastin: A promising biomarker for COPD. AJRCCM 2011, **184(6):**637-41)

2010:

1.- He J, **Turino GM** and Lin YY: characterization of peptide fragments from lung elastin degradation in chronic obstructive pulmonary disease. Experimental Lung Research 2010, 1521-0499 online.

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2009:

1C- Barr RG, CelliBR, Mannino DM, Petty T, Rennard SI, Sciruba FC, Stoller JK, Shomashow BM and **Turino GM**: Comorbidities, patient knowledge, and disease management in a national sample of patients with COPD. Am J Med 2009 **Apr;122(4):**348-55.

2.- Castaldi PJ, DeMeo DL, Kent DM, Campbell EJ, Barker AF, Grantly ML, Eden I, McElvaney NG, Rennard SI, Stock JM, Stoller JK, Strange C, **Turino GM**, Sandhaus RA, Griffith EK and Silverman EK: Development of predictive models for airflow obstruction in alpha-1 antitrypsin deficiency. Am J Epidemiol 2009, **170(8):**1005-13.

3.- Eden E and **Turino GM**: Editorial: Lessons from Longevity. CHEST 2009, **135:**591-92.

4.- DeMeo DL, Campbell EJ, Brantly ML, Barker AF, Eden E, McElvaney NG, Rennard SI, Stocks JM, Stoller JK, Strange C, **Turino GM**, Sandhaus RA, Silverman EK: Heritability of lung function in severe alpha-1 antitrypsin deficiency. Hum Hered 2009, **67:**38-45.

5.- Ma S, Lin YY and **Turino GM**: The effect of Tiotropium on levels of Desmosine and Isodesmosine in patients with COPD Respiratory-Research 2009, **10:**12.

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2008:

1.- DeMeo D, Campbell EJ, Barker AF, Brantly ML, Eden E, McElvaney NG, Rennard SI, Sandhaus SA, Stocks JM, Stoller JK, Strange C, **Turino GM** and Silverman EK: IL-10 polymorphisms are associated with airflow obstructions in severe alpha-1 antitrypsin deficiency. AJRCCM 2008, **38:**114-20.

2.- Luisetti M, Ma S, Iadorola P, Lin YY, Snider GL and **Turino GM**: Desmosine as a biomarker of elastin degradation in COPD: current status and future directions Eur Resp J 2008, **32:**1146-57.

3.- Sandhaus, RA, Turino, GM, Stocks, J, Strange, C, Trapnell, B, Silverman, EK, Everett, SE, Stoller, JK, : For the Medical and Scientific Advisory Committee or the Alpha-1 Foundation: Alpha-Antitrypsin Augmentation Therapy for PI*MZ Heterozygotes*. CHEST 2008, **134**:831-834.

4.- **Turino GM**: COPD and biomarkers: The search goes on (editorial). THORAX 2008, **63**:1032-34.

2007:

1.- Eden E, Holbrook JT, Brantly ML, **Turino GM** and Wise RA: Prevalence of alpha-1 antitrypsin deficiency in poorly controlled asthma: Results from the ALA-ACRC Low Dose Theophylline Trial. J Asthma 2007, **44**:605-08.

2.- Demeo DL, Sandhaus RA, Barker AF, Brantly MS, Eden E, McElvaney NG, Rennard S, Burshard E, Stocks JM, Stoller JK, Strange C, **Turino GM**, Campbell EJ and Silverman EK: Determinants of airflow obstruction in severe alpha-1 antitrypsin deficiency. Thorax 2007, **62**:806-13.

3.- Ma S, Lin YY and **Turino GM**: Annual Congress of European Respiratory Society, Stockholm, September 15-19, 2007, Abstract, Session 227, Poster #2156.

4.- Ma S, Lin YY and **Turino GM**: The effect of tiotropium (TIO) on levels of desmosine and isodesmosine (D/I) in urine, plasma and sputum in COPD. Eur Respir J 2007, **30(Suppl.51)**:355s.

5.- Ma S, Lin YY and Turino GM: Measurements of Desmosine and Isodesmosine by Mass Spectrometry in COPD. CHEST 2007, **131**:1363-71.

6.- **Turino GM**: Editorial: Proteases in COPD: A Critical Pathway to Injury. CHEST 2007, **132**:1724-25.

2006:

1.- Cantor JO, Shteyngart B, Cerreta JM, Ma S and **Turino GM**: Synergistic effect of hydrogen peroxide and elastase fiber injury *in vitro*. Exp Biol Med 2006, **231**:107-111.

2.- Schunemann HJ, Jaeschke R, Cook DJ, Bria WF, El-Solh AA, Erns A, Fahy BJ, Gould MK, Horan KL, Krishnan JA, Manthous CA, Maurer JR, McNicholas WT, Oxman AD, Rubenfeld G, **Turino GM** and Guyatt G, on behalf of the ATS Documents Development and Implementation Committee: An Official ATS Statement: Grading the Quality of Evidence and Strength of Recommendations in ATS Guidelines and Recommendations. Am J Respir Crit Care Med 2006, **174**:605-614.

3.- Strange C, Stoller JK, Sandhaus RA, Dickson R and **Turino GM**: Results of a survey of patients with alpha-1 antitrypsin deficiency. Respiration 2006, **73**:185-90.

4.- **Turino GM**: Editorial: Emphysema in COPD: Consequences and Causes. Thorax 2006, **61**:1031-32.

2005:

1.- Stoller JK, Sandhaus RA, **Turino GM** et al: Delay in diagnosis of alpha-1 antitrypsin deficiency: A continuing problem. Chest 2005, **128**:1989-94.

2.- **Turino GM**: Editorial: Therapeutic gains of prolonged bronchial dilatation in chronic obstructive pulmonary disease. Ann Int Med 2005, **143(5)**:386-387.

2004:

1.- Cantor JO, Cerreta JM, Ochoa M, Ma S, Chow T, Grunig G and **Turino GM**: Aerosolized hyaluronan limits airspace enlargement in a mouse model of cigarette smokeinduced pulmonary emphysema. Accepted for publication in Experimental Lung Research (2004).

2003:

- 1.- Ma S, Lieberman S, Turino GM and Lin YY: The detection and quantitation of free desmosine and isodesmosine in human urine and their peptide-bound forms in sputum. Proceed Natl Acad Sci October 28, 2003, **100(22):12941-43.**
- 2.- Turino GM and Cantor JO: Hyaluronan in respiratory injury and repair. Am J Resp Crit Care Med 2003 **167:1169-75.**
3. **Turino GM**, Konietzko N, eds. ATS/ERS Task Force Statement on Alpha-1 antitrypsin deficiency (Consensus document of the Lung Disease Writing Group on Alpha-1 Antitrypsin Deficiency, American Thoracic Society and European Respiratory Society and the American College of Chest Physicians) Am J Resp Crit Care Med 2003, (in press).

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2002-2001:

1. Cantor JO, Shteyngart B, Cerreta JM and Turino GM: The effect of lysozyme on elastase-mediated injury. Exper Biol Med 2002, **227(2):108-13.**
2. Eden E, Hammel J, Rouhani FN, Brantly ML, Barker AF, Buist AS, Fallat RJ, Stoller JK, Crystal RG, **Turino GM** and the Alpha-1 Antitrypsin Deficiency Registry Study Group: Asthma Features in Severe Alpha-1-Antitrypsin Deficiency: Experience of the NHLBI Registry (NO1-HR-86036 from the NHLBI, NIH, 2002 (in press).
3. **Turino, GM**: The origins of a concept: the protease-antiprotease imbalance hypothesis (special report). Chest 2002, **122:1058-1060.**

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1991-2000:

33. Cantor JO, Shteyngart B, Cerreta JM, Liu M, Armand G and Turino GM: The effect of hyaluronan on elastic fiber injury in vitro and elastase-induced airspace enlargement in vivo. Proc Soc for Exp Biol & Med 2000, **225:65-71.**
34. Schluchter MD, Stoller JK, Barker AF, Buist AS, Crystal RG, Donohue JF, Fallat RJ, Turino GM, Vreim CE and Wu MC, for the Alpha 1-Antitrypsin Deficiency Registry Study Group: Feasibility of a clinical trial of augmentation therapy for α_1 antitrypsin deficiency. Am J Resp Crit Care Med 2000, **160:**
35. Cantor JO, Cerreta JM, Armand G, Osman M and Turino GM: the pulmonary matrix, glycosaminoglycans and pulmonary emphysema. Connective Tissue Research 1999, **40(2):97-104.**
36. Alpha-1-antitrypsin deficiency registry study group: survival and FEV₁ decline in individuals with severe deficiency of α_1 antitrypsin. Am J Resp Crit Care Med 1998, **158:49-59.**
37. Cantor JO, Cerreta Joseph M, Armand G and Turino GM: Aerosolized hyaluronic acid decreases alveolar injury induced by human neutrophil elastase. Proceedings Soc Expir Biol & Med 1998, **217:471-475.**
38. Turino GM: "An approach to the patient with respiratory disease". in Bennett JC, ed: The Cecil Textbook of Medicine 1998, University of Alabama Press, Birmingham AL (in press).
39. Eden E, Mitchell D, Mehlman B, Khouli H, Nejat M, Grieco MH and Turino GM: Atopy, asthma and emphysema in patients with severe α_1 antitrypsin deficiency. Am J Respir Crit Care Med 1997, **156:68-74.**
40. Cantor JO, Cerreta JN, Armand G and Turino GM: Further investigation of the use of intratracheally administered hyaluronic acid to ameliorate elastase-induced emphysema. Ex Lung Res 1997, **23:229-244.**
41. Turino GM, Barker AF, Brantly ML, Cohen AB, Connelly RP, Crystal RG, Eden E, Schluchter MD and Stoller JK: Clinical features of individuals with the Pi^{SZ} phenotype of α_1 antitrypsin deficiency. Am J Resp & Crit Care Med 1996, **154:1718-1725.**
42. Turino GM: the American Lung Association/American Thoracic Society relationship and why these organizations should remain closely associated now and in the future (editorial-Pro). Am J Resp & Crit Care Med April 1996, **154:3-5.**

43. Turino GM: "An approach to the patient with respiratory disease". in Bennett JC, ed: The 3Cecil Textbook of Medicine 1996, University of Alabama Press, Birmingham AL, pp 368-371.
44. Turino GM, Chairman et al: Future Directions for Research on Diseases of the Lung: Report of a Special Task Force of the American Lung Association and the American Thoracic Society. Am J Resp & Crit Care Med 1995, **152**:1713-1735.
45. Drazen JM and Turino GM: Progress at the interface of inflammation and asthma: report of an ATS-sponsored workshop. Am J Resp & Crit Care Med 1995, **152**:386-87.
46. Turino GM: Health Care: Time for a New Look (editorial). The Washington Report, ALA/ATS Spring/Summer 1995, 96:7-8.
47. Cantor J and Turino GM: Modulation of air-space enlargement in elastase-induced emphysema by intratracheal instillation of hyaluronidase and hyaluronic acid. Exper Lung Res 1995, **21(3)**:423-436.
48. Turino GM: Pulmonary research: a perspective for the young investigator (editorial). Amer J Resp & Crit Care Med 1994, **150(4)**:890-892.
49. Bray BA, Hsu W and Turino GM: Lung hyaluronan as assayed with a biotinylated hyaluronan-binding protein. Experimental Lung Research 1994, **20**:317-330.(August 26, 1994)
50. Bray BA, Osman M and Turino GM: Evidence that Fibronectin-Immunoglobulin Complexes Occur Normally in Plasma. Society for Experimental Biology and Medicine (in press, July 29, 1994)
51. Cantor JO and Turino GM: Recent insights into the role of the pulmonary extracellular matrix. in " Frontiers of Pulmonary Science", Pack, AI, ed, Plenum Press (in press)
52. Eden E and Turino GM: State of the Art: α_1 Antitrypsin Deficiency: An Underdiagnosed Condition, 1993 (in press)
53. Cantor JO, Cerreta JM, Armand G, Keller S and Turino GM: Pulmonary air-space enlargement induced by intratracheal instillation of hyaluronidase and concomitant exposure to 60% oxygen. Exper Lung Res **19**:177-192, 1993.
53. Bray BA, Sampson PM, Osman M, Giandomenico A and Turino, GM: Early changes in lung tissue hyaluronan (hyaluronic acid) and hyaluronidase in bleomycin-induced alveolitis in hamsters. Am Rev Respir Dis **143**:284-288, 1991.
54. Cantor JO and Turino GM: Animal models of emphysema. in Cherniack, NS, ed, "Chronic Obstructive Pulmonary Disease," pp 63-69, 1991.
55. Turino GM, Davies P, Dunlap R, Krell RD, Maycock AL, Rennard S and Stockley RA: Selection of a therapeutic agent for the treatment of chronic obstructive pulmonary disease in smokers. in "Pulmonary Emphysema: The Rationale for Therapy", (proceedings of a workshop). Ann NY Acad Sci **624(Suppl)**:23-30, 1991.
56. Turino GM: Natural history and clinical management of emphysema in patients with and without α_1 antitrypsin inhibitor deficiency. in Weinbaum, G, Giles, RE and Krell, RD, eds, "Pulmonary Emphysema, the Rationale for Therapeutic Intervention". Annals NY Acad of Sciences **624**:18-29, 1991.

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1981-1990:

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ABSTRACTS

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