No. 4356 April 25, 1953

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Productivity Report

Ekman, V. W., Arkiv. Mat. Astron. Fysik. (Stockholm), 2 (11)

MOLECULAR STRUCTURE OF NUCLEIC ACIDS

A Structure for Deoxyribose Nucleic Acid

WE wish to suggest a structure for the salt structure has novel features which are of considerable biological interest.

A structure for nucleic acid has already been proposed by Pauling and Corey!. They kindly made their manuscript available to us in advance of publication. Their model consists of three interis noter high. At lower water contents we would expect the bases to tilt so that the structure could become more compact.

The novel feature of the structure is the manner in which the two chains are held together by the purine and pyrimidine bases. The planes of the bases are perpendicular to the fibre axis. They are joined together in pairs, a single base from one chain being hydrogen-bonded to a single base from the other chain, so that the two lie side by side with identical z-co-ordinates. One of the pair must be a purine and the other a pyrimidine for bonding to occur. The hydrogen bonds are made as follows: purine position 1 to pyrimidine position 1; purine position 6 to pyrimidine position 6.

If it is assumed that the bases only occur in the structure in the most plausible tautomeric forms

cons of nine nine



TEXAS TECH UNIVERSITY

HEALTH SCIENCES CENTER

at El Paso

Paul L. Foster School of Medicine

phosphates are on the outside and the bases on the inside, linked together by hydrogen bonds. This structure as described is rather ill-defined, and for this reason we shall not comment

this reason we shall not common on it.

on it.
We wish to put for

We wish to put forward a radically different structure for the salt of deoxyribose nucleic acid. This structure has two helical chains each coiled round the same axis (see diagram). We have made the usual degram of the same axis (see diagram).

of the amounts of adenine to thymine, and the ratio of guanine to cytosine, are always very close to unity for deoxyribose nucleic acid.

It is probably impossible to build this structure with a ribose sugar in place of the deoxyribose, as the extra oxygen atom would make too close a van der Waals contact.

The previously published X-ray data^{5,6} on deoxyribose nucleic acid are insufficient for a rigorous test

Department of Internal Medicine

ribofuranose residues "FY" 2009 more exact results. Some of these are given linkages. The two chart of the following communications. We were not aware not their bases) are related by a softhe details of the results presented there when we

1 September 2008 – 31 August 2009

handed helices, but owing to the dyad the sequences of the atoms in the two chains run in opposite directions. Each chain loosely resembles Furberg's² model No. 1; that is, the bases are on the inside of the helix and the phosphates on the outside. The configuration of the sugar and the atoms near it is close to Furberg's 'standard configuration', the sugar being roughly perpendi-

It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material.

Full details of the structure, including the conditions assumed in building it, together with a set of co-ordinates for the atoms, will be published elsewhere.

We are much indebted to Dr. Jerry Donohue for constant advice and criticism, especially on interatomic distances. We have also been stimulated by a knowledge of the general nature of the unpublished experimental results and ideas of Dr. M. H. F. Wilkins, Dr. R. E. Franklin and their co-workers as

diagrammatic. The two ribbons symbolize the two phosphate—sugar chains, and the horizontal rods the pairs of bases holding the chains

Prepared by:

Sean M. Connery, Natalia Vega 25 August 2009

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Peer Review Publications 2008-2009

Journal Articles*

Choi AI, Rodriguez RA, Bacchetti P, Bertenthal D, **Hernandez GT**, O'Hare AM. White/Black Racial Differences in Risk of End-stage Renal Disease and Death. Am J Med. 2009;122(7):672-8.

Figueroa-Casas JB, Montoya R, Arzabala A, **Connery SM**. Comparison between Automatic Tube Compensation and Continuous Positive Airway Pressure during Spontaneous Breathing Trials. Respiratory Care – In Revision, 2009.

Flavin NE, Mulla ZD, Bonilla-Navarrete A, Chedebeau F, Lopez O, Tovar Y, **Meza A**. Health insurance and the development of diabetic complications. South Med J. 2009;102(8):805-9.

Iglesias R, Locovei S, Roque A, Alberto AP, Dahl G, Spray DC, Scemes E. P2X₇ receptor-Pannexin1 complex: pharmacology and signaling. Am J Physiol Cell Physiol. 2008;295(3):C752-60.

Porres-Aguilar M, **Zuckerman MJ**, **Figueroa-Casas JB**, Krowka MJ. Portopulmonary hypertension: state of the art. Ann Hepatol. 2008;7(4):321-30.

Silverman W, Locovei S, Dahl G. Probenecid, a gout remedy, inhibits pannexin 1 channels. Am J Physiol Cell Physiol. 2008;295(3):C761-7.

Silverman WR, de Rivero Vaccari JP, Locovei S, Qiu F, Carlsson SK, Scemes E, Keane RW, Dahl G. The Pannexin 1 Channel Activates the Inflammasome in Neurons and Astrocytes. J Biol Chem. 2009;284(27):18143-51.

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Figueroa-Casas JB, Lodato RF. Estimation of Positive End-Expiratory Pressure from Expiratory Flow in Acute Respiratory Distress Syndrome. Am J Respir Crit Care Med 2009;179(Meeting abstracts):A3091.

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Fleming RV, Zuckerman MJ, Ramirez R, Lee D, Trevino M, Medina J, Boman D, Variyam E. Amebic colitis: clinical and endoscopic features in a United States – Mexico border city. Am J Gastroenterol 2008;103(Suppl):S175.

Khan A, Tovar YE, Rodriguez C, Huerta AL, Rajabi B, Hakim MN, Mulla ZD. Incidence of triple negative breast cancer phenotype in a predominantly Hispanic cohort. J Clin Oncol(Meeting abstracts) 2009;27:e22188.

Khan A, Rodriguez C, Tovar YE, Mulla ZD, Hakim MN. Clinicopathologic predictors of the 21-gene assay in a Hispanic cohort. J Clin Oncol(Meeting abstracts) 2009;27:e22209.

^{*}Citation format – Uniform requirements for manuscripts submitted to biomedical journals: International Committee of Medical Journal Editors

Abstracts (con't)

Porres-Aguilar M, McCarthy K, Hammel JP, **Connery SM**, Minai OA. Severe Pulmonary Hypertension in Patients with Obstructive Lung Disease. Am J Respir Crit Care Med 2009;179(Meeting abstracts):A2647.

Powers CR, Connery SM, Wink JS, Greenberg B. Indoor vs. Outdoor Exercise Challenge Testing In Patients With Suspected Reactive Airways Disease And Negative Methacholine Challenge Tests. Med Sci Sports Exerc 2009;41:5(Suppl 1):4.

Vassalo JA, **Casner PR**. Improved Knowledge of Geriatrics After Implementation of a New Geriatric Rotation for Residents in Internal Medicine. J Amer Ger Soc 2009;57(Suppl):S180-S181.

Ramirez R, **Zuckerman M**, Chokhavatia S. Acute colonic pseudo-obstruction: is tegaserod a treatment option? (abstr). Am J Gastroenterol 2008; 103 (Suppl): S266.

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Anaya-Ayala JE, Porres-Aguilar M, Mora-Loya CA, Porres-Muñoz M. Severe acute pancreatitis: prognosis and treatment implications. Rev Gastroenterol Mex. 2008;73(1):40-6.

Flavin NE, Gomez M. Fever, pain, and a limp: a case of a psoas and spinal epidural abscess caused by methicillin-resistant Staphylococcus aureus in a diabetic patient. J Natl Med Assoc. 2009;101(1):84-6.

Hejazi, RA, Zhang D, McCallum RW. Gastroparesis, Pseudoachalasia and Impaired Intestinal Motility as Paraneoplastic Manifestations of Small Cell Lung Cancer. Am J Med Sci. 2009;338(1):69-71.

Joukhadar R, **Bright T**. Calciphylaxis in primary hyperparathyroidism: a case report and brief review. South Med J. 2009;102(3):318-21.

Joukhadar R, De Las Casas LE, **Lalude O**, **Gough D**. Cardiac myxoma showing extramedullary hematopoiesis in a patient with beta thalassemia. South Med J. 2009;102(7):769-71.

Prakash S, **Hernandez GT**, Dujaili I, Bhalla V. Lead poisoning from an Ayurvedic herbal medicine in a patient with chronic kidney disease. Nat Rev Nephrol. 2009;5(5):297-300.

Letters to Editor

Zuckerman MJ, Peters J, **Fleming RV**, Boman D, Calleros JE, Adler DG. [Letter] Cholangiopathy associated with giardiasis in a patient with human immunodeficiency virus infection. J Clin Gastroenterol 2008;42(3):328-329.

Resident Research Activity

(IM Resident **Bold**, Faculty Sponsor / Mentor <u>Italic</u>)

Journal Articles

Flavin NE, Mulla ZD, Bonilla-Navarrete A, Chedebeau F, Lopez O, Tovar Y, Meza A. Health insurance and the development of diabetic complications. South Med J. 2009;102(8):805-9.

<u>Figueroa-Casas JB</u>, Montoya R, **Arzabala A**, Connery SM. Comparison between Automatic Tube Compensation and Continuous Positive Airway Pressure during Spontaneous Breathing Trials. Respiratory Care – In Revision, 2009.

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Silverman W, Locovei S, Dahl G. Probenecid, a gout remedy, inhibits pannexin 1 channels. Am J Physiol Cell Physiol. 2008;295(3):C761-7.

Iglesias R, Locovei S, Roque A, Alberto AP, Dahl G, Spray DC, Scemes E. P2X₇ receptor-Pannexin1 complex: pharmacology and signaling. Am J Physiol Cell Physiol. 2008;295(3):C752-60.

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Porres-Aguilar M, McCarthy K, Hammel JP, Connery SM, Minai OA. Severe Pulmonary Hypertension in Patients with Obstructive Lung Disease. Am J Respir Crit Care Med 2009;179(Meeting abstracts):A2647.

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<u>Khan A</u>, **Tovar YE**, **Rodriguez C**, **Huerta AL**, **Rajabi B**, Hakim MN, Mulla ZD. Incidence of triple negative breast cancer phenotype in a predominantly Hispanic cohort. J Clin Oncol 2009;27(Meeting abstracts):e22188.

<u>Khan A</u>, **Rodriguez C**, **Tovar YE**, Mulla ZD, Hakim MN. Clinicopathologic predictors of the 21-gene assay in a Hispanic cohort. J Clin Oncol 2009;27(Meeting abstracts):e22209.

<u>Fleming RY</u>, <u>Zuckerman MJ</u>, **Ramirez R**, Lee D, Trevino M, Medina J, Boman D, Variyam E. Amebic colitis: clinical and endoscopic features in a United States – Mexico border city. Am J Gastroenterol 2008;103(Suppl):S175.

Ramirez R, <u>Zuckerman M</u>, Chokhavatia S. Acute colonic pseudo-obstruction: is tegaserod a treatment option? Am J Gastroenterol 2008;103(Suppl):S266.

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Anaya-Ayala JE, **Porres-Aguilar M**, Mora-Loya CA, Porres-Muñoz M. Severe acute pancreatitis: prognosis and treatment implications. Rev Gastroenterol Mex. 2008;73(1):40-6.

Flavin NE, **Gomez M**. Fever, pain, and a limp: a case of a psoas and spinal epidural abscess caused by methicillin-resistant Staphylococcus aureus in a diabetic patient. J Natl Med Assoc. 2009;101(1):84-6.

Hejazi, RA, Zhang D, **McCallum RW**. Gastroparesis, Pseudoachalasia and Impaired Intestinal Motility as Paraneoplastic Manifestations of Small Cell Lung Cancer. Am J Med Sci. 2009;338(1):69-71

Joukhadar R, <u>Bright T</u>. Calciphylaxis in primary hyperparathyroidism: a case report and brief review. South Med J. 2009;102(3):318-21.

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OPEN, ACTIVE, ONGOING RESEARCH

Investigator Initiated Research Studies GRANT FUNDED

- ➤ NTx & Other Novel Non-Invasive Markers of Bone Turnover in Uremia. PI- Ramin Tolouian, MD. TTUHSC SOM Preliminary Data Grant. January 1, 2009 31 December 2009. \$20,000.
- ➤ Determinants of Inhibitors of Vascular Calcification in Uremia. PI- Ramin Tolouian, MD. Paul L. Foster SOM Seed Grant. March 1, 2008 February 26, 2010. \$24,957
- ➤ The Prevalence of Lead Exposure among Kidney Clinic Patients in El Paso: The Paso del Norte Kidney Disease Study (PNKDS). PI- German T. Hernandez, MD. Center for Border Health Research. 01/01/2008–06/31/2009 No Cost Extension to December 31, 2009. \$74,988

Investigator Initiated Research Studies Unfunded

- o **Initial Experience of Capsule Endoscopy at Thomason General Hospital.** Marc J. Zuckerman, MD.
- Estimation of Auto-PEEP from Expiratory Flow During Mechanical Ventilation In ARDS. Juan Figueroa-Casas, MD.
- **Comparison between two methods of spontaneous breathing trials.** Juan Figueroa-Casas, MD.
- o **Amebic Colitis: Analysis of Invasive Disease in a US-Mexico Border City.** Rhonda Fleming, MD.
- o **ERCP in the Elderly.** Marc Zuckerman, MD.
- O Clinical features and etiology of septic arthritis in El Paso, Texas a mainly Hispanic and immigrant population. Kanchan Pema, MD.
- O Clinical Presentation and Outcomes among predominantly Hispanic patients with Lupus Nephritis. German Hernandez, MD.
- Prevalence and predictors (risk factors) of pulmonary arterial hypertension in a hispanic-american population with scleroderma. Kanchan Pema, MD.
- o Racial differences and baseline characteristics of patients with atrial fibrillation in the texas-mexico border community. David Gough, MD.

- O Retrospective surveillance of the Incidence, clinical features and complications of Clostridium Difficile Associated Disease (CDAD) in a predominant Hispanic population review during the period of 2006-2008. A Texas Tech University Health Science Center El Paso Campus- and Thomason General Hospital Study. Armando Meza, MD.
- Evaluation of correlation between hyponatremia and prevalence of falls and fractures. Ramin Tolouian, MD.

Pharmaceutically Sponsored Clinical Research Studies

Open, Active Clinical Trials (as of Aug 2008)

- O A Multi-center, Randomized, Double-blind, Active-controlled Clinical Trial to Evaluate the Safety and Tolerability of 24 Weeks Treatment with Vildagliptin (50 mg qd) versus Sitagliptin (25 mg qd) in Patients with Type 2 Diabetes and Severe Renal Insufficiency. Dinorah Nutis, MD.(initially German Hernandez, MD) Novartis Pharmaceuticals, Oct 2007 Current
- O A Randomised, Double-Blind, Placebo Controlled, Parallel-Group, Multicenter Study To Evaluate The Efficacy and Safety of Two Doses of Ocrelizumab in Patients With WHO or ISN Class III or IV Nephritis Due To Systemic Lupus Erythematosus German Hernandez, MD. Hoffman La Roche and Genentech Pharmaceuticals March 2008—Current
- O An Open-label, Long-term Safety Study of Oral Linaclotide Administered to Patients with Chronic Constipation or Irritable Bowel Syndrome with Constipation. Marc Zuckerman, MD. Ironwood Pharmaceuticals. *Oct* 2008 *Current*.
- O A Phase 3b Multicenter, Single-Blind Trial to Evaluate the Efficacy of Dexlansoprazole MR 30 mg in Maintaining Control of Gastroesophageal Reflux Disease Symptoms in Subjects on Prior Twice Daily Proton Pump Inhibitor Therapy. Marc Zuckerman, MD. Takeda Global Research and Development Center, Inc. March 2009 Current
- O Therapies for Resistant Focal Segmental Glomerulosclerosis (FSGS) A Phase II Clinical Trial. German Hernandez, MD, NIH/NIDDK. *March* 2009 Current
- O Phase II, Double Blind, Randomized, Placebo-Controlled Study of the Safety, Tolerance and Activity of HE3286 When Administered Orally for 12 Weeks to Adult Patients with Type 2 Diabetes Mellitus Tamis Bright, MD. Hollis-Eden Pharmaceuticals. Sept 2008 Current
- O A Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Phase 2 Evaluation of the Safety and Efficacy of Once-Daily Administrations of TZP 102 for the Treatment of Symptomatic Gastroparesis in Patients with Diabetes Mellitus Marc Zuckerman, MD. Tranzyme Inc. March 2009 Current
- A Phase 2, Randomized, Double-Blind Placebo-Controlled Study to Evaluate the Safety and Efficacy of MGAWN1 in Subjects with Suspected Central Nervous System Infection Due to West Nile Virus – Armando Meza, MD. MacroGenics, Inc. July 2009 – Current
- O A Phase 3, Randomized, Double-blind, Placebo-controlled, Parallel-group Trial of Linaclotide Administered Orally for 26 Weeks in Patients with Irritable Bowel Syndrome with Constipation Marc Zuckerman, MD. Ironwood Pharmaceuticals. July 2009 Current

Pharmaceutically Sponsored Clinical Research Studies

Completed Clinical Trials

(close date between 1 Sept 2008 – 31 Aug 2009)

- o **Trial to Reduce Cardiovascular Event with Aranesp Therapy (TREAT)**. Azikiwe C. Nwosu, MD. Amgen Pharmaceuticals, Inc. 5 October, 2004 August 2009
- o Focal segmental glomerulosclerosis (FSGS) Clinical Trial (FSGS-CT): A Therapeutic Intervention Trial. NIH Sponsored. Hernandez, German, MD. *March* 2007 August 2009
- O A 6-Month, Phase 3, Randomized, Double-blind, Parallel-group, Controlled, Multicenter Study to Evaluate the Incidence of Gastric Ulcers Following Administration of Either PN 400 or Naproxen in Subjects Who are at Risk of Developing NSAIDassociated Ulcers. Marc Zuckerman, MD. Pozen, Inc. 4 Sept 2007 – 2008
- A Phase III, Randomized, Double-Blind, Placebo Controlled, Multicenter Study To Evaluate The Efficacy And Safety Of Rituximab In Subjects With ISN/RPS Class III Or IV Lupus Nephritis. German Hernandez, MD. Genentech, Nov 2006 – May 2009
- O A Phase 2 Randomized, Double-blind, Placebo-controlled Study of the Safety and Efficacy of Talactoferrin Alfa in Patients with Severe Sepsis., Juan Figueroa-Casas, MD. Agennix Pharmaceuticals, Feb 2008 July 2009
- O A Phase 3 Multicenter, Randomized, Double-Blind, Parallel-Group, Placebo Controlled Trial to Evaluate the Efficacy of TAK-390MR (30 mg QD) Compared to Placebo on Relief of Nocturnal Heartburn in Subjects with Symptomatic Gastroesophageal Reflux Disease (GERD). Marc Zuckerman, MD. Takeda Global Research & Development Center, Inc. July 2008 June 2009
- O A Phase 3, Randomized, Double-blind, Placebo-controlled, Parallel-group Trial of Linaclotide Administered Orally for 12 Weeks Followed by a 4-Week Randomized Withdrawal Period in patients with Chronic Constipation. Marc Zuckerman, MD. Ironwood Pharmaceuticals, Inc. Sept 2008 Aug 2009
- O A Phase I/II, Double-Blind, Randomized, Placebo-Controlled, Dose Ranging Study of the Safety, Tolerance, Pharmacokinetics and Activity of HE3286 when Administered Orally to Patients with Active, Mild-to-Moderate Ulcerative Colitis Marc Zuckerman, MD. Hollis-Eden Pharmaceuticals. Oct 2008 June 2009.

Annual Research Productivity Report



Paul L. Foster School of Medicine

Department of Internal Medicine FY 2008 1 September 2007 – 31 August 2008

> Prepared by: Sean M. Connery, MS 22 September 2008

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Peer Review Publications 2007-2008

Journal Articles*

Gan SI, Rajan E, Adler DG, Baron TH, Anderson MA, Cash BD, Davila RE, Dominitz JA, Harrison ME, Ikenberry SO, Lichtenstein D, Qureshi W, **Zuckerman M**, Fanelli RD, Lee KK, Van Guilder T. ASGE guideline: the role of EUS. Gastrointest Endosc. 2007;66(3):425-34

Hughes HW, Connery SM, Rivera JO, Rivera M. Adequacy of Outpatient Care Among Hospitalized Adult Asthmatics in a Southwest U.S. Border City. Texas Med. 2008; In Press.

Abstracts

Figueroa-Casas JB, Connery SM, Arzabala A, Montoya R. Comparison between Automatic Tube Compensation and Continuous Positive Airway Pressure during Spontaneous Breathing Trials. Am J Respir Crit Care Med. 2008;177:A378

De Las Casas LE, Klysik M, **Connery SM**, Lanham LL, Ruelas L, Walker J, Rodriguez F, Hakim N, Bowman DA. Value of High Risk HPV DNA Testing in Women over 40 Years and Over. Lessons from a County Hospital on the Border. Cancer Cytopathol Suppl 2008; In Press.

Buchanan R, Casner P. Impact of media on medical students' perceptions of the Mexican-American elderly. J Amer Ger Soc 2008;56:S134

Published Case Reports

Zuckerman MJ, Peters J, **Fleming RV**, Boman D, Calleros JE, Adler DG. Cholangiopathy associated with giardiasis in a patient with human immunodeficiency virus infection. J Clin Gastroenterol. 2008;42(3):328-9

Porres-Aguilar M, Square JH, Storey R, Rodriguez-Dunn S, **Mohamed-Aly MS**. An unusual cause of cerebral venous sinus thrombosis: prothrombin G20210A gene mutation. South Med J. 2007;100(9):906-8.

Porres-Aguilar M, Pena-Ruiz MA, Burgos JD, Porres-Munoz M, **Hughes HW**. Chronic thromboembolic pulmonary hypertension as an uncommon presentation of primary antiphospholipid syndrome. J Natl Med Assoc. 2008;100(6):734-6.

Porres-Aguilar M, Mendez-Ramirez J, **Eraso LH**, Porres-Munoz M, **Pema K**. Diffuse alveolar hemorrhage as an initial presentation of Systemic Lupus Erythematosus. J Natl Med Assoc. 2008, Accepted for publication.

^{*}Citation format – Uniform requirements for manuscripts submitted to biomedical journals: International Committee of Medical Journal Editors

Letters to Editor

Chamberlin W, Naser SA. Blood cultures of 19 Crohn's disease patients. Am J Gastroenterol. 2008;103(3):802-3

Chamberlin WM, Shafran I. Anti-mycobacterials and Crohn's disease. Aliment Pharmacol Ther. 2008;28(3):373-4

Book Chapters

Fleming RV, Anaissie EJ. Hyalohyphomycosis – Infection due to Hyaline Moulds. In: Hospenthal DR, Rinaldi MG, editors. Diagnosis and Treatment of Human Mycosis. New Jersey: Humana Press, 2008: 201-213.

Hand WL. Erysipelothrix. In:Schossberg, D. (ed). Clinical Infectious Disease, Cambridge University Press, New York, 2007, pp. 967-969.

Hand WL, Ho H. Erysipelothrix infection. In: Up To Date, Rose B. (ed). Up To Date, Waltham, MA, 2007.

Unpublished Material

Hand WL, Vasquez Y, and Martin L. Neuroinvasive West Nile virus infection in the far West Texas-Mexico border region. Submitted for publication.

Resident Research Activity

(IM Resident **Bold**, Faculty Sponsor / Mentor *Italic*)

Abstracts

<u>Figueroa-Casas JB</u>, Connery SM, **Arzabala A**, Montoya R. Comparison between Automatic Tube Compensation and Continuous Positive Airway Pressure during Spontaneous Breathing Trials. Am J Respir Crit Care Med. 2008;177:A378

Published Case Reports

Porres-Aguilar M, Square JH, **Storey R**, Rodriguez-Dunn S, <u>Mohamed-Aly MS</u>. An unusual cause of cerebral venous sinus thrombosis: prothrombin G20210A gene mutation. South Med J. 2007;100(9):906-8.

Porres-Aguilar M, **Pena-Ruiz MA**, **Burgos JD**, **Porres-Munoz M**, <u>Hughes HW</u>. Chronic thromboembolic pulmonary hypertension as an uncommon presentation of primary antiphospholipid syndrome. J Natl Med Assoc. 2008;100(6):734-6.

Porres-Aguilar M, Mendez-Ramirez J, *Eraso LH*, Porres-Munoz M, *Pema K*. Diffuse alveolar hemorrhage as an initial presentation of Systemic Lupus Erythematosus. J Natl Med Assoc. 2008, Accepted for publication.

Presentations at National Medical Meetings

Osuchukwu, G, Arzabala, A, *Pema*, *K*. An Unusual Cause for Abdominal Pain in a 26-Year-Old Female. - Finalists in the poster presentation of the annual American College of Physician Texas Chapter meeting October 2007 in Galveston Texas.

OPEN, ACTIVE, ONGOING RESEARCH

Investigator Initiated Research Studies GRANT FUNDED

- The Prevalence of Lead Exposure among Kidney Clinic Patients in El Paso. PI- German T. Hernandez, MD. TTUHSC- Seed Grant Program. September 1, 2008 August 31, 2008. \$19,950
- ➤ The Prevalence of Lead Exposure among Kidney Clinic Patients in El Paso: The Paso del Norte Kidney Disease Study (PNKDS). PI- German T. Hernandez, MD. Center for Border Health Research. January 1, 2008 June 31, 2009. \$74,988
- ➤ Border Infectious Diseases Surveillance (BIDS) Project. PI William Lee Hand, MD. Centers for Disease Control and Prevention: Texas Department of Health; Texas Department of State Health Services. Sept 2006 Dec 2007, \$80,000

Investigator Initiated Research Studies Unfunded

- o **Initial Experience of Capsule Endoscopy at Thomason General Hospital.** Marc J. Zuckerman, MD, Nancy Casner, MS.
- o Mercury levels, metabolic syndrome and sub-clinical inflammation: Evaluation of a US population database Survey (NHANES). Luis Eraso MD, German Hernandez, MD.
- O Cardiovascular Inflammation, Metabolic Syndrome and Acculturation among Mexican Americans: Evaluation of a US population database Survey (NHANES). Luis Eraso MD, Zuber Mulla, Ph.D.
- O The Association Between Blood Lead Levels and Depression: Results From the National Health and Nutrition Examination Survey. German Hernandez, MD, Luis Eraso, MD.
- Correlation between Non-Invasive Ultrasonic Arterial Wall Biopsy Estimation (UBE), inflammatory cytokines (IL-6), cell matrix proteases inhibitors (Cystatin C) and related single nucleotide gene polymorphisms (SNP'S). JL Sarmiento, MD, Luis Eraso, MD.
- Estimation of Auto-PEEP from Expiratory Flow During Mechanical Ventilation In ARDS. Juan Figueroa-Casas, MD.
- Amebic Colitis: Analysis of Invasive Disease in a US-Mexico Border City. Rhonda Fleming, MD.

- o **ERCP in the Elderly.** Marc Zuckerman, MD.
- O Differences in demographic and clinical characteristics between end-stage renal disease patients who receive routine vs. emergency dialysis treatment. German Hernandez, MD.
- O A Study To Determine The Rate Of ASCA Positivity In Patients With Pulmonary Tuberculosis: Implications For The Controversy Regarding Crohn's Disease And Mycobacterium Avium Paratuberculosis. William Chamberlin, MD.

Pharmaceutically Sponsored Clinical Research Studies

Open, Active Clinical Trials (as of Aug 2008)

- o **Trial to Reduce Cardiovascular Event with Aranesp Therapy (TREAT)**. Azikiwe C. Nwosu, MD. Amgen Pharmaceuticals, Inc. 5 October, 2004 Current
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- A Phase III, Randomized, Double-Blind, Placebo Controlled, Multicenter Study To
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- A Phase 2 Randomized, Double-blind, Placebo-controlled Study of the Safety and Efficacy of Talactoferrin Alfa in Patients with Severe Sepsis., Juan Figueroa-Casas, MD, Harold Hughes, MD Agennix Pharmaceuticals, Feb 2008 – Current
- O A Multi-center, Randomized, Double-blind, Active-controlled Clinical Trial to Evaluate the Safety and Tolerability of 24 Weeks Treatment with Vildagliptin (50 mg qd) versus Sitagliptin (25 mg qd) in Patients with Type 2 Diabetes and Severe Renal Insufficiency. German Hernandez, MD, Dinorah Nutis, MD. Novartis Pharmaceuticals, Oct 2007 Current
- O A Randomised, Double-Blind, Placebo Controlled, Parallel-Group, Multicenter Study To Evaluate The Efficacy and Safety of Two Doses of Ocrelizumab in Patients With WHO or ISN Class III or IV Nephritis Due To Systemic Lupus Erythematosus German Hernandez, MD. Hoffman La Roche and Genentech Pharmaceuticals March 2008—Current

- O A Randomized Double-Blind Parallel Study of Rabeprazole Extended-Release 50 mg Versus Esomeprazole 40 mg for Healing and Symptomatic Relief of Mild to Moderate Erosive Gastroesophageal Reflux Disease (GERD). Marc Zuckerman, MD, William Chamberlin, MD. Eisai Medical Research Inc. & Johnson and Johnson Pharmaceuticals Inc. June 2008 – Current
- O A Randomized Double-Blind Parallel Study of Rabeprazole Extended-Release 50 mg Versus Esomeprazole 40 mg for Healing and Symptomatic Relief of Moderate to Severe Erosive Gastroesophageal Reflux Disease (GERD). Marc Zuckerman, MD, William Chamberlin, MD. Eisai Medical Research Inc. & Johnson and Johnson Pharmaceuticals Inc. June 2008 – Current
- O A Phase 3 Multicenter, Randomized, Double-Blind, Parallel-Group, Placebo Controlled Trial to Evaluate the Efficacy of TAK-390MR (30 mg QD) Compared to Placebo on Relief of Nocturnal Heartburn in Subjects with Symptomatic Gastroesophageal Reflux Disease (GERD). Takeda Global Research & Development Marc Zuckerman, MD. Center, Inc. July 2008 Current

Pharmaceutically Sponsored Clinical Research Studies

Completed Clinical Trials

(close date between 1 Sept 2007 – 31 Aug 2008)

- A Multicenter, Randomized, Controlled, Double-Blind, Double-Dummy, Two-Arm Study of Posaconazole vs. Fluconazole in the Treatment of Coccidiodiomycosis.
 Rhonda V. Fleming. Schering-Plough Research Institute. June 2007 – March 2008.
- Mechanism-of-Action Research Project in Association with Studies of Rituximab in Systemic Lupus Erythematosus (U2971g) and Lupus Nephritis (U2970g). German Hernandez, MD. Genentech. Sept 2007 – June 2008
- A Phase 3, Randomized Multicenter, Double-Blind, Allopurinol-Controlled Study
 Assessing the Efficacy and Safety of Oral Febuxostat in Subjects with Gout. Kanchan
 M. Pema, MD. TAP Pharmaceuticals, Inc. February 2007 April 2008
- O A Phase 2 Double-Blind Study to Evaluate the Safety and Efficacy of Ilaprazole (5 mg QD, 20 mg QD and 40 mg QD) and an Active Comparator, Lansoprazole (30 mg QD) on Healing of Erosive Esophagitis Marc Zuckerman, MD. TAP Pharmaceutical Products Inc. July 2007 December 2007
- O A Randomized, Multicenter, Double-blind, Placebo-controlled, Dose-range-finding, Parallel-design, Phase 2 Trial of Oral Linaclotide Acetate Administered to Patients with Irritable Bowel Syndrome with Constipation. Marc Zuckerman, MD. Microbia, Inc. April 2007 April 2008

- A Randomized, Double-Blind, Phase 3 Study of the Efficacy and Safety of HZT-501 in Subjects Requiring NSAID Treatment. Marc Zuckerman, MD. Horizon Therapeutics, Inc. March 2007 – August 2008
- A Randomized, Multicenter, Double-Blind, Placebo-Controlled, Dose-Range-Finding, Parallel-Group, Phase 2 Trial of Oral Linaclotide Acetate Administered to Patients with Chronic Constipation. Marc Zuckerman, MD. Microbia, Inc. 09 Jan 2007 – April 2008.
- A 12-Week, Randomized, Double-Blind, Dose-Ranging, Placebo-Controlled Study of Asimadoline in Subjects with Irritable Bowel Syndrome. Marc J. Zuckerman, MD, Carmela P. Morales, MD, William Chamberlin, MD. Tioga Pharmaceuticals, Inc. *July* 2007 – October 2007.

Annual Research Productivity Report



Department of Internal Medicine FY 2007 1 September 2006 – 31 August 2007

> Prepared by: Sean M. Connery, MS Natalia Vega, BS 30 September 2007

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Zhao Z, **Fleming R**, McCloud B, Klempner MS. CD14 mediates cross talk between mononuclear cells and fibroblasts for upregulation of matrix metalloproteinase 9 by Borrelia burgdorferi. Infect Immun. 2007 Jun;75(6):3062-9.

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Hand WL, Hand DL and Vasquez, Y. Increased Polymorphonuclear Leukocyte Respiratory Burst Function in Type 2 Diabetes. Diabetes Res Clin Pract. 2007 Apr;76(1):44-50.

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Peña-Ruiz MA, **Meza A**, Mulla ZD. Coccidioidomycosis infection in a predominantly Hispanic population. Ann NY Acad Sci. 2007 Mar 7. [Epub ahead of print]

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^{*}Citation format - Uniform requirements for manuscripts submitted to biomedical journals: International Committee of Medical Journal Editors

Zuckerman MJ, Shen B, Harrison ME 3rd, Baron TH, Adler DG, Davila RE, Gan SI, Lichtenstein DR, Qureshi WA, Rajan E, Fanelli RD, Van Guilder T. Standards of Practice Committee. Informed consent for GI endoscopy. Gastrointest Endosc. 2007 Aug;66(2):213-8.

Adler DG, Qureshi W, Davila R, Gan SI, Lichtenstein D, Rajan E, Shen B, **Zuckerman MJ**, Fanelli RD, Van Guilder T, Baron TH. Standards of Practice Committee. The role of endoscopy in ampullary and duodenal adenomas. Gastrointest Endosc. 2006 Dec;64(6):849-54.

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Eraso LH, Leon A, Hernandez G. In vivo effect of inflammatory cytokines on Cystatin C among subjects at risk for advanced atherosclerosis Arterioscler Thromb Vasc Biol. 2007;27(6):e135-7.

Leon A, Woo V, Connery SM, Casner P. Complications of Interrupted Warfarin Therapy In Patients With Mechanical Heart Valves. J Clinical Pharmacol. 2007;47:1197.

Hughes HW, Vazquez A, Connery SM, Vlasich E, Rivera M. Efficacy of a Collaborative Treatment Program for Drug-Resistant Tuberculosis in the Texas-Mexico Border Region. Am J Respir Crit Care Med. 2007;175:A676.

Nutis D, Cordova A., Garza G, Hernandez N, Lopez A, Connery SM, Casner P. Efficacy of a Combination of Repaglinide and Oral Sulfonylureas with Metformin, in Mexican Americans with type 2 Diabetes: A Pilot Study. J Clinical Pharmacol. 2007;47:1191.

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Casner PR. Saw palmetto for benign prostatic hyperplasia. N Engl J Med. 2006 May 4;354(18):1950-1; author reply 1950-1.

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Book Chapters

Rodriguez RA, **Hernandez GT**. Renal Toxicology. In: LaDou J, editor. Occupational & Environmental Medicine, Fourth Edition. New York: McGraw Hill; 2007.

Fleming RV, Anaissie EJ. Emerging Fungal Infections. In: Wingard JR, Anaissie EJ, editors. Fungal Infections in the Immunocompromised Patient. Boca Raton, FL: Taylor & Francis Group, 2005. p. 311-40.

Fleming RV, Anaissie EJ. Hyalohyphomycosis – Infection due to Hyaline Moulds. In: Hospenthal DR, Rinaldi MG, editors. Diagnosis and Treatment of Human Mycosis. In press.

Hand WL. Erysipelothrix. In: Schossberg, D, editor. Clinical infectious disease. New York: Cambridge University Press. In press.

Hand WL, and Ho H. Erysipelothrix infection. In: Rose, B, editor. Up To Date. Boston, In Press.

Presentations at National Medical Meetings

Eraso LH, Leon A, Hernandez GT. In-vivo Effect of Inflammatory Cytokines on Cystatin C Among Subjects at Risk for Advanced Atherosclerosis. Presented American Heart Association Arteriosclerosis, Thrombosis and Vascular Biology Annual Conference. Chicago, IL April 2007.

Eraso LH. The association between the metabolic syndrome and the IL-6 (C – 174 G) gene polymorphism among Mexican Americans with chronic kidney disease: A case-control study. Presented: Center for Cardiovascular Disease & Stroke Second Annual Progress & Planning Conference Lubbock, TX. Wednesday August 29, 2007.

Other Scholarly Publications, Presentations, and Activities

Davis HE, Eraso L Pilot Study: Can Weekly Quizzes Enhance Learning During the Internal Medicine Clerkship? 2006 Clerkship Directors in Internal Medicine (CDIM) National Meeting, October 26-28, 2006, New Orleans, LA. Finalist for "Best Research Poster" competition.

Tillmanns RW, Ringwelski, A, Kretschmann, J, Spangler, LD, Curry, RH. The Profession of Medicine: A Joint U.S. – German Collaborative Project in Medical Education. CMTE: Medical Teacher, 2007. In Press.

Resident Research Activity

(IM Resident **Bold**, Faculty Sponsor / Mentor *Italic*)

Peña-Ruiz M, <u>Hernandez GT</u>. Renal Biopsy Series among Predominantly Hispanic Patients at a University Public Hospital in the Southwest. Oral, platform presentation at 11th Annual National Hispanic Medical Association Conference; 2007 Mar; San Antonio, Texas.

Peña-Ruiz MA, Mulla ZD, **Escobar A**, <u>Meza A</u>. Epidemiological Profile of Coccidioidomycosis Infection in a Predominantly Hispanic Population. Annual Meeting of the Southern Medical Association, 2006 Oct; Charlotte, North Carolina.

<u>Nutis D</u>, Cordova A., **Garza G**, **Hernandez N**, Lopez A, Connery SM, <u>Casner P</u>. Efficacy of a Combination of Repaglinide and Oral Sulfonylureas with Metformin, in Mexican Americans with type 2 Diabetes: A Pilot Study. Presented at National Hispanic Medical Association Eleventh Annual Conference; 2007 Mar 22-25; San Antonio, Texas.

<u>Hughes HW</u>, **Vazquez A**, Connery SM, Vlasich E, <u>Rivera M</u>. Efficacy of a Collaborative Treatment Program for Drug-Resistant Tuberculosis in the Texas-Mexico Border Region. Am J Respir Crit Care Med 2007;175:A676.

Orellana A, *Figueroa-Casas JB*. Routine Use of Direct Nucleic Acid Amplification in the Diagnosis of Pulmonary Tuberculosis. Am J Respir Crit Care Med 2007;175:A421.

Leon A, Woo V, Connery SM, <u>Casner P</u>. Complications of Interrupted Warfarin Therapy In Patients With Mechanical Heart Valves. J Clin Pharmacol 2007;47:1197.

<u>Eraso LH</u>, **Leon A**, <u>Hernandez G</u>. In vivo effect of inflammatory cytokines on Cystatin C among subjects at risk for advanced atherosclerosis. Arterioscler Thromb Vasc Biol 2007;27(6):e135-7.

Investigator Initiated Research Studies GRANT FUNDED

- ➤ Efficacy of a Combination of Repaglinide and Oral Sulfonylureas, with or without Metformin, in Mexican Americans with type 2 Diabetes. PI- Dinorah J. Nutis, MD. Sub-Investigators: Paul R. Casner, M.D. Ph.D., Gilberto Garza-Lozano, MD, Anabel Lopez-Coronado, MD TTUHSC-El Paso Research Seed Grant Program. Sepember 1, 2005 August 31, 2006. Extension Granted until June 31, 2006. \$20,000
- Clinical and Molecular Characterization of Mexican American Kindreds with Non-alcoholic Fatty Liver Disease. PI- Carmela P. Morales, MD. Center for Border Health Research Grant Jan 1, 2003 June 31, 2004. Multiple extensions granted until July 31, 2007 \$75,000
- ➤ Interactions of Maxofloxacin with Human Phagocytic Cells. PI William Lee Hand. Bayer Pharmaceuticals, \$97,494
- ➤ Border Infectious Diseases Surveillance (BIDS) Project. PI William Lee Hand, MD. Centers for Disease Control and Prevention: Texas Department of Health; Texas Department of State Health Services. Sept 2006 Dec 2007, \$80,000
- ➤ Differences in the Incidence and Prevalence of Disease Among Diverse Hispanic Populations: Metabolic, Genetic, Clinical and Epidemiological Approaches. PI Willaim Lee Hand, MD. West Texas Rural EXPORT Center, 2006-2007, \$40,000
- ➤ Comparison between two methods of spontaneous breathing trial. PI Juan Figueroa-Casas, MD TTUHSC School of Medicine (SOM) Seed Grant, October 30, 2007 November 30, 2007, \$18,048
- The Association between Metabolic Syndrome and IL-6 (C-174G) gene polymorphism among Mexican Americans with Chronic Kidney Disease: A case-control study. PI- Luis Eraso, MD, MPH. TTUHSC Cardiovascular Seed Grant, Sept 1, 2007 August 31, 2007. \$18,321

OPEN, ACTIVE, ONGOING RESEARCH

Investigator Initiated Research Studies

Unfunded

- o **Initial Experience of Capsule Endoscopy at Thomason General Hospital.** Marc J. Zuckerman, MD, Carmela P. Morales, MD, Rodrigo Saenz, MD and Nancy Casner, MS.
- O Quantitive Patient Questionnaire Monitoring in Standard Clinical Care of Patients with Rheumatoid Arthritis in North America (QUEST-RA in NA). Kanchan M. Pema, MD
- o Mercury levels, metabolic syndrome and sub-clinical inflammation: Evaluation of a US population database Survey (NHANES). Luis Eraso MD, German Hernandez, MD.
- O Cardiovascular Inflammation, Metabolic Syndrome and Acculturation among Mexican Americans: Evaluation of a US population database Survey (NHANES). Luis Eraso MD, Zuber Mulla, Ph.D.
- O The Association Between Blood Lead Levels and Depression: Results From the National Health and Nutrition Examination Survey. German Hernandez, MD, Luis Eraso, MD.
- O Correlation between Non-Invasive Ultrasonic Arterial Wall Biopsy Estimation (UBE), inflammatory cytokines (IL-6), cell matrix proteases inhibitors (Cystatin C) and related single nucleotide gene polymorphisms (SNP'S). JL Sarmiento, MD, Luis Eraso, MD.
- o **WBC function, infection, and inflammation in diabetes.** WL Hand, MD.
- Estimation of Auto-PEEP From Expiratory Flow During Mechanical Ventilation In ARDS. Juan Figueroa-Casas, MD.
- Amebic Colitis: Analysis of Invasive Disease in a US-Mexico Border City. Rhonda Fleming, MD.
- o **ERCP in The Elderly.** Marc Zuckerman, MD.
- o Differences in demographic and clinical characteristics between end-stage renal disease patients who receive routine vs. emergency dialysis treatment. German Hernandez, MD.
- A Study To Determine The Rate Of ASCA Positivity In Patients With Pulmonary Tuberculosis: Implications For The Controversy Regarding Crohn's Disease And Mycobacterium Avium Paratuberculosis. William Chamberlin, MD.

- o **Novel Markers of Bone Turnover in Uremia.** Ramin Tolouian, MD.
- Cost of Inappropriate Utilization of Proton Pump Inhibitors in Hospitalized Patients. Carmela Morales, MD.
- o In vitro Interactions of Azithromycin with Human Phagocytic Cells: Characteristics and Mechanisms of Cellular Accumulation and Bactericidal Activity. WL Hand, MD.

Pharmaceutically Sponsored Clinical Research Studies

Open, Active Clinical Trials (as of 1 Sept 2007)

- A Multicenter, Randomized, Controlled, Double-Blind, Double-Dummy, Two-Arm Study of Posaconazole vs. Fluconazole in the Treatment of Coccidiodiomycosis.
 Rhonda V. Fleming. Schering-Plough Research Institute. 5 June 2007 – Current
- A Phase III, Randomized, double-Blind, Placebo Controlled, Multicenter Study to Evaluate the Efficacy and Safety of Rituximab in Subjects with ISN/RPS Class III or IV Lupus Nephritis. German T. Hernandez, MD, Kanchan Pema, MD. Genentech. 9 January, 2007 – Current
- Mechanism-of-Action Research Project in Association with Studies of Rituximab in Systemic Lupus Erythematosus (U2971g) and Lupus Nephritis (U2970g). Hernandez, German, MD Genentech. <u>04 Sept 2007 - Current</u>
- o **Trial to Reduce Cardiovascular Event with Aranesp Therapy (TREAT)**. Azikiwe C. Nwosu, MD. Amgen Pharmaceuticals, Inc. 5 October, 2004 Current
- o Focal segmental glomerulosclerosis (FSGS) Clinical Trial (FSGS-CT): A Therapeutic Intervention Trial. NIH Sponsored. Hernandez, German, MD. *March* 2007 *Current*
- O A Phase 3, Multi-Center, Randomized, Double-Blind, Placebo-Controlled, 76-Week Study to Evaluate the Efficacy and Safety of Belimumab (HSS1006, LympoStat-B™), a Fully Human Monoclonal Anti-BLyS Antibody, in Subjects with Systemic Lupus Erythematosus (SLE). Kanchan M. Pema, MD. Human Genome Sciences, Inc-GlaxoSmithKlein. 5 June 2007 Current
- O A Phase 3, Randomized Multicenter, Double-Blind, Allopurinol-Controlled Study Assessing the Efficacy and Safety of Oral Febuxostat in Subjects with Gout. Kanchan M. Pema, MD. TAP Pharmaceuticals, Inc. 06 February 2007 Current
- A Randomized, Multicenter, Double-Blind, Placebo-Controlled, Dose-Range-Finding, Parallel-Group, Phase 2 Trial of Oral Linaclotide Acetate Administered to Patients

- with Chronic Constipation. Marc J. Zuckerman, Saket Prasad, MD. Microbia 9 January 2007 Current
- A 12-Week, Randomized, Double-Blind, Dose-Ranging, Placebo-Controlled Study of Asimadoline in Subjects with Irritable Bowel Syndrome. Marc J. Zuckerman, MD, Carmela P. Morales, MD, William Chamberlin, MD. Tioga Pharmaceuticals, Inc. 11 July 2007 – Current
- O A 6-Month, Phase 3, Randomized, Double-blind, Parallel-group, Controlled, Multicenter Study to Evaluate the Incidence of Gastric Ulcers Following Administration of Either PN 400 or Naproxen in Subjects Who are at Risk of Developing NSAIDassociated Ulcers. Marc Zuckerman, MD. Pozen, Inc. 4 Sept 2007 – Current
- O A Phase 2 Double-Blind Study to Evaluate the Safety and Efficacy of Ilaprazole (5 mg QD, 20 mg QD and 40 mg QD) and an Active Comparator, Lansoprazole (30 mg QD) on Healing of Erosive Esophagitis Marc Zuckerman, MD. TAP Pharmaceutical Products Inc. 03 July 2007 Current
- O A Randomized, Multicenter, Double-blind, Placebo-controlled, Dose-range-finding, Parallel-design, Phase 2 Trial of Oral Linaclotide Acetate Administered to Patients with Irritable Bowel Syndrome with Constipation. Marc Zuckerman, MD. Microbia, Inc. 03 April 2007 Current
- A Randomized, Double-Blind, Phase 3 Study of the Efficacy and Safety of HZT-501 in Subjects Requiring NSAID Treatment. Marc Zuckerman, MD. Horizon Therapeutics, Inc. 06 March 2007 – Current
- A Randomized, Multicenter, Double-Blind, Placebo-Controlled, Dose-Range-Finding, Parallel-Group, Phase 2 Trial of Oral Linaclotide Acetate Administered to Patients with Chronic Constipation. Marc Zuckerman, MD. Microbia, Inc. 09 Jan 2007 – Current
- A 12-Week, Randomized, Double-Blind, Dose-Ranging, Placebo-Controlled Study of Asimadoline in Subjects with Irritable Bowel Syndrome. Zuckerman, Marc, M.D. Tioga Pharmaceuticals, Inc. 11 July 2006 – Current

Pharmaceutically Sponsored Clinical Research Studies

Completed Clinical Trials

(close date between 1 Sept 2006 - 31 July 2007)

- A Randomized Controlled Trial of Mycophenolate Mofetil in Patients with IgA
 Nephropathy. German T. Hernandez, MD. Sponsor Southwest Pediatric Nephrology
 Group/St. Joseph's Hospital & Medical Center Direct Amount 5 September 2006 1 May 2007.
- Open-Label, Limited Access Protocol of Posaconazole in Invasive Fungal Infections.
 Rhonda Fleming, MD. Sponsor Schering-Plough Research Institute. 20 July 2006 16 October 2006 Compassionate Use
- O A Phase 3 Study to Evaluate the Efficacy and Safety of TAK-390MR (30mg QD and 60 mg QD) Compared to Placebo on Symptom Relief in Subjects with Symptomatic Non-Erosive Gastroesophageal Reflux Disease (GERD). Zuckerman, Marc, M.D. TAP Pharmaceutical Products Inc. 11 July 2006 03 April 2007
- A Phase 3 Study to Evaluate the Safety and Efficacy of TAK-390MR (60 mg QD and 90 mg QD) Compared to Placebo in Maintenance of Healing in Subjects with Healed Erosive Esophagitis. Marc Zuckerman, MD. TAP Pharmaceuticals Inc. 01 Jan 2006 2 May 2006.
- O A Phase 3, Open-Label Study to Assess the Long-Term Safety of TAK-390MR (60 mg QD and 90 mg QD). Marc Zuckerman, MD. TAP Pharmaceutical Products Inc. 03 Jan 2006 02 May 2006.
- O A Phase 3, Randomized, Open-label, Study of Lopinavir/ritonavir Tablets Versus Soft Gel Capsules and Once Daily Versus Twice Daily Administration, when Coadministered with NRTIs in Antiretroviral Naïve HIV-1 Infected Subjects. Rhonda Fleming, M.D. 14 March 2006 05 September 2006
- A Phase 3 Study to Evaluate the Efficacy and Safety of TAK-390MR (60 mgQD and 90 mgQD) Compared to Placebo on Symptom Relief in Subjects with Symptomatic Non-Erosive Gastroesophageal Reflux Disease (GERD). Marc Zuckerman, MD. TAP Pharmaceutical Products, Inc. 13 Jan 2005 07 Nov 2006.
- O A Phase 3 Study to Evaluate the Efficacy and Safety of TAK-390MR (60 mgQD) and 90 mgQD) and an Active Comparator, Lansoprazole (30 mgQD) on Healing Erosive Esophagitis. Marc Zuckerman, MD. TAP Pharmaceutical Products, Inc. 13 Dec 2005 03 April 2007.

Department of Internal Medicine Texas Tech University HSC, El Paso 2004-2006

Peer Review Publications, Book Chapters, Letters to the Editor

- 1. Adler DG, Leighton JA, **Zuckerman MJ**, et al. ASGE guideline: The role of endoscopy in acute non-variceal upper-GI hemorrhage. Gastrointest Endosc 2004; 60:497-504.
- 2. Adler DG, Baron TH, Davila RE, Egan J, Hirota WK, Leighton JA, Qureshi W, Rajan E, **Zuckerman MJ**, Fanelli R, Wheeler-Harbaugh J, Faigel DO. ASGE guideline: the role of ERCP in diseases of the biliary tract and pancreas. Gastrointest Endosc 2005; 62:1-8.
- 3. **Casner P**. Update in perioperative medicine. Ann Intern Med 2004; 141:486; author reply 486-7.
- 4. **Casner PR**. The effect of CYP2D6 polymorphisms on dextromethorphan metabolism in Mexican Americans. J Clin Pharmacol 2005; 45:1230-5.
- 5. Davila RE, Rajan E, **Zuckerman MJ**, et al. ASGE guideline: the role of endoscopy in the diagnosis, staging, and management of colorectal cancer. Gastrointest Endosc 2005; 61:1-7.
- 6. Davila RE, Rajan E, Adler DG, Egan J, Hirota WK, Leighton JA, Qureshi W, **Zuckerman MJ**, Fanelli R, Wheeler-Harbaugh J, Baron TH, Faigel DO. ASGE guideline: the role of endoscopy in the patient with lower GI bleeding. Gastrointest Endosc 2005; 62:656-660.
- 7. Davila RE, Rajan E, Baron TH, Adler DG, Egan JV, Hirota WK, Leighton JA, Qureshi W, **Zuckerman MJ**, Fanelli R, Wheeler-Harbaugh J, Faigel DO. ASGE guideline: colorectal cancer screening and surveillance. Gastrointest Endosc 2006; 63:546-557.
- 8. Egan JV, Baron TH, Adler DG, Davila RE, Faigel DO, Gan SI, Hirota WK, Leighton JA, Lichtenstein D, Qureshi WA, Rajan E, Shen B, **Zuckerman MJ**, Van Guilder T, Fanelli RD. ASGE guideline: esophageal dilation. Gastrointest Endosc 2006; 63:755-760.
- 9. Faigel DO, Baron TH, Adler DG, Davila RE, Egan J, Hirota WK, Jacobson BC, Leighton JA, Qureshi W, Rajan E, **Zuckerman MJ**, Fanelli R, Wheeler-Harbaugh J. ASGE guideline: guidelines for credentialing and granting privileges for capsule endoscopy. Gastrointest Endosc 2005; 61:503-505.
- 10. **Fleming RV**, Anaissie EJ. Emerging Fungal Infections. In: Wingard JR, ed. Fungal Infections in the Immunocompromised Patient. Boca Raton, FL: Taylor&Franicis Group, 2005:311-340.

- 11. **Fleming RV**, Anaissie EJ. Hyalohyphomycosis Infection due to Hyaline Molds. In: Hospenthal DR RM, ed. Diagnosis and Treatment of Human Mycoses, 2006 (In Press).
- 12. Forsyth NR, **Morales CP**, Damle S, et al. Spontaneous immortalization of clinically normal colon-derived fibroblasts from a familial adenomatous polyposis patient. Neoplasia 2004; 6:258-65.
- 13. Gonzalez-Stuart A, Rivera, JO., **Hughes HW**. Providers of Herbal Products in the Largest US-Mexico Border Community. Tex Med 2006; 102:120-125.
- 14. **Hand WL**, Vasquez Y. Risk factors for hepatitis C on the Texas-Mexico border. Am J Gastroenterol 2005; 100:2180-5.
- 15. Hightower JM, O'Hare A, **Hernandez GT**. Blood mercury reporting in NHANES: identifying Asian, Pacific Islander, Native American, and multiracial groups. Environ Health Perspect 2006; 114:173-5.
- 16. Hirota WK, **Zuckerman MJ**, Adler DG, Davila RE, Egan J, Leighton JA, Qureshi WA, Rajan E, Fanelli R, Wheeler-Harbaugh J, Baron TH, Faigel DO. ASGE guideline: the role of endoscopy in the surveillance of premalignant conditions of the upper GI tract. Gastrointest Endosc 2006; 63:570-580.
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- 31. **Zuckerman MJ**, Nguyen G, **Ho H**, Nguyen L, Gregory GG. A survey of irritable bowel syndrome in Vietnam using the Rome criteria. Dig Dis Sci 2006; 51:946-51.
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Publications In Submission/ Under Review:

Hand WL, and Ho, H. Erysipelothrix infection. In: Rose, B (ed) UP TO DATE, Boston, 2005.

Hand, W.L., Hand, D.L., and Vasquez, Y. Increased polymorphonuclear leukocyte respiratory burst function in type 2 diabetes. Submitted for publication.

Hernandez GT, Rodriguez RA. Renal Toxicology. In: LaDou J, editor. *Current Diagnosis & Treatment in Occupational & Environmental Medicine, Fourth Edition*. New York: McGraw Hill; 2007 *In-press*

Hand, W.L., Vasquez, Y., and **Martin, L.** West Nile Virus infection in the far West Texas-Mexico border region. Submitted for publication.

Grants and Research Activity

- Complications of Interrupted Warfarin therapy in Patients with Mechanical Heart Valves: PI Paul Casner, MD, PhD. Unfunded, Investigator Initiated
- An Open-Label Extension Study of Protocol 2993-112 to Examine the Long-Term Effect on Glucose Control (HbA1c) and Safety and Tolerability of AC2993 Given Two Times a Day to Subjects Treated With Metaformin Alone: PI – Paul Casner, MD, PhD. Sub-Investigator: Sheena Stubbers, MD. Clinical Trial. Pharmaceutical Sponsor – Amylin Pharmaceuticals.
- <u>Blood Cultures for Mycobacterium avium subspecies paratuberculosis in Crohn's Disease patients</u>: PI William M. Chamberlin, MD. Sub-Investigator: Carmela P. Morales, MD. Unfunded, Investigator Initiated
- <u>Can Learning During the Internal Medicine Clerkship Be Enhanced by Weekly Quizzes? A Pilot Study of a Revised Learning/Testing Strategy?</u>: PI Harry E Davis II, MD Unfunded, Educational Study
- The Association between Metabolic Syndrome and IL-6 (C-174G) gene polymorphism among Mexican Americans with Chronic Kidney Disease: A case-control study: PI Luis H. Eraso. Sub-Investigator: German T. Hernandez, MD. Lubbock SOM Cardiovascular Seed Grant. \$18,000.
- Mercury levels, metabolic syndrome and sub-clinical inflammation: Evaluation of a US population-based survey (NHANES): PI Luis H. Eraso. Sub-Investigator: German T. Hernandez, MD, Thong Do, MD. Unfunded, Investigator Initiated.
- <u>Comparison between two methods of spontaneous breathing trial</u>: PI Juan B. Figueroa-Casa, MD. Unfunded, Investigator Initiated.
- <u>Nucleic acid amplification in the diagnosis of mycobacterial diseases</u>: PI Juan B. Figueroa-Casa, MD. Sub-Investigator: Alan E. Orellana, MD. Unfunded, Investigator Initiated.
- <u>Method of aerosol delivery and incidence of ventilator associated pneumonia</u>: PI Juan B. Figueroa-Casa, MD. Unfunded, Investigator Initiated.

- <u>Relationship of regional body fat distribution to obesity hypoventilation syndrome</u>: PI Juan B. Figueroa-Casa, MD. Sub-Investigator: Alfredo Vazquez Sandoval, MD Unfunded, Investigator Initiated.
- Estimation of auto-PEEP from expiratory flow during mechanical ventilation in ARDS: PI Juan B. Figueroa-Casa, MD. Unfunded, Investigator Initiated.
- <u>Amebic Colitis: Analysis of Invasive Disease in a US-Mexico Border City</u>: PI Rhonda V. Fleming, MD. Sub-Investigator: Marc J. Zuckerman, MD. Unfunded, Investigator Initiated
- A Phase IIIB, Randomized, Open-Label, Multicenter, Parallel-Arm Study to Evaluate the Short-Term Safety and Tolerability of the Abacavir/Lamivudine Fixed-Dose Combination Tablet Administered Once-Daily or the Separate Abacavir and Lamivudine Tablet Administered Twice-Daily, as Part of a Three or Four Drug Regimen, in Antiretroviral-Naive HIV-1 Infected Subjects: PI – Rhonda V. Fleming. Clinical Trial. Pharmaceutical Sponsor – GlaxoSmithKline.
- <u>Cubicin for Post-Surgical Wound Infections</u>: PI Rhonda V. Fleming. *Clinical Trial.* Pharmaceutical Sponsor Cubist Pharmaceuticals.
- A Phase 3, Randomized, Open-label, Study of Lopinavir/ritonavir Tablets Versus Soft Gel Capsules and Once Daily Versus Twice Daily Administration, when Coadministered with NRTIs in Antiretroviral Naïve HIV-1 Infected Subjects: PI – Rhonda V. Fleming. Clinical Trial. Pharmaceutical Sponsor – Abbott Pharmaceuticals.
- Open Label, Limited Access Protocol of Posaconazole (SCH #056592) in Invasive Fungal Infections: PI Rhonda V. Fleming. Schering-Plough Research Institute. Obtained compassionate use of drug prior to FDA approval on urgent basis for single patient
- Hepatitis Questionnaire and Antibiotic Resistance Questionnaire: PI W. Lee Hand, MD
- In vitro interactions of azithromycin with human phagocytic cells: characteristics and mechanisms of cellular accumulation and bactericidal activity: PI W. Lee Hand, MD
- Protocol for intensified hepatitis surveillance along the United States-Mexico border: PI W.
 Lee Hand, MD
- Antibiotic susceptibility pattern of urinary tract infections from hospital patients in El Paso, Texas: PI – W. Lee Hand, MD
- <u>Texas Tech/UTEP migrant border health initiative</u>: PI W. Lee Hand, MD
- WBC function, infection, and inflammation in diabetes: PI W. Lee Hand, MD. Sub-Investigator: Tamis M. Bright.
- Border infectious diseases surveillance questionnaire: PI W. Lee Hand, MD Grant CDC, TDH, TDSHS \$85,713

- Interactions of moxifloxacin with human phagocytic cells: Characteristics and mechanisms of cellular accumulation, efflux and bacterial activity: PI W. Lee Hand, MD
- The Impact of Age on Prevalence and Progression of Chronic Kidney Disease among African Americans and Latinos: PI German T. Hernandez, MD. Unfunded, Investigator Initiated.
- <u>Clinical and Pathological Characteristics of Predominantly Hispanic Patients Referred for Renal Biopsy at a University Public Hospital</u>: PI German T. Hernandez, MD. Sub-Investigator: Miguel A. Pena-Ruiz, MD Unfunded, Investigator Initiated.
- <u>The Association Between Blood Lead Levels and Depression: Results From the National Health and Nutrition Examination Survey:</u> PI German T. Hernandez, MD. Sub-Investigator: Luis H. Eraso, MD. Unfunded, Investigator Initiated.
- A Randomized Controlled Trial of Mycophenolate Mofetil in Patients with IgA Nephropathy: PI German T. Hernandez, MD. Clinical Trial. Sponsor Southwest Pediatric Nephrology Group/St. Joseph's Hospital & Medical Center
- Epidemilogical profile of coccidioidomycosis infection in a predominantly hispanic population: PI- Armondo D. Meza, MD. Sub-Investigator: Pena-Ruiz, Miguel A., MD Unfunded, Investigator Initiated.
- Clinical and Molecular Characterization of Mexican American Kindreds with Non-alcoholic Fatty Liver Disease: PI- Carmela P. Morales. Center for Border Health Research Grant. \$70,000
- Efficacy of a Combination of Repaglinide and Oral Sulfonylureas, with or without Metformin, in Mexican Americans with type 2 Diabetes: PI- Dinorah J. Nutis, MD. Sub-Investigators: Paul R. Casner, M.D. Ph.D., Gilberto Garza-Lozano, MD, Anabel Lopez-Coronado, MD El Paso Research Seed Grant. \$20,000
- <u>Trial to Reduce Cardiovascular Event with Aranesp Therapy</u>: PI- Azikiwe C. Nwosu, MD. Clinical Trial. Pharmaceutical Sponsor Amgen Pharmaceuticals, Inc.
- A Phase III, Randomized, Multicenter, Allopurinol and Placebo-Controlled Study Assessing the Safety and Efficacy of Oral Febuxostat in Subjects with Gout: PI – Kanchan M. Pema, MD. Sub-Investigators: Rajendra Marwah, MD, Marc J. Zuckerman, MD. Clinical Trial. Pharmaceutical Sponsor – TAP Pharmaceuticals, Inc.
- A Phase 3, Open-Label, Randomized, Allopurinol-Controlled Study to Assess the Long-Term Safety or Oral Febuxostat in Subjects with Gout: PI Kanchan M. Pema, MD. Sub-Investigators: Rajendra Marwah, MD, Marc J. Zuckerman, MD. Clinical Trial. Pharmaceutical Sponsor TAP Pharmaceuticals, Inc.

- An assessment of a community- based therapy for multidrug resistant tuberculosis in a U.S.- <u>Mexico border population</u>: PI – Manuel Rivera, MD. Sub-Investigators: Harold W. Hughes, MD, Alfredo Vazquez Sandoval, MD Unfunded, Investigator Initiated.
- <u>Comparison of the Risk of Bacteremia Due to Sclerotherapy or Ligation of Esophageal Varies</u>: PI- Marc J. Zuckerman, MD. Unfunded, Investigator Initiated.
- A 16-Week, Randomized, Double-Blind, Placebo-Controlled, Flexible-Dose, Parallel Group, Multicenter Study With a Withdrawal Phase to Investigate the Safety and Efficacy of Dexloxiglumide 200 mg tid or 200 mg bid in Female Patients with Constipation-Predominant Irritable Bowel Syndrome: PI – Marc J. Zuckerman. Sub-Investigator: Sub-Investigator: Saket Prasad, MD Clinical Trial. Pharmaceutical Sponsor – Forest Pharmaceuticals.
- A 52-Week, Open-label, Multicenter Study of the Long-term Safety and efficacy of Dexloxiglumide 200mg t.i.d. in Patients with Constipation-predominant and Alternating-type Irritable Bowel Syndrome: PI Marc J. Zuckerman. Sub-Investigator: Sub-Investigator: Saket Prasad, MD Clinical Trial. Pharmaceutical Sponsor Forest Pharmaceuticals.
- An open label extension of study DEX-MD-02A to investigate the long term safety and efficacy of dexloxiglumide 200 mg tid in female patients with constipation-predominant irritable bowel syndrome: PI Marc J. Zuckerman. Sub-Investigator: Sub-Investigator: Saket Prasad, MD Clinical Trial. Pharmaceutical Sponsor Forest Pharmaceuticals.
- A Multicenter, Randomized, Double-Blind, Parallel-Group, Placebo-Controlled Efficacy Study
 Comparing 4 Weeks of Treatment with Esomeprazole 20 mg qd for the Resolution of Upper
 Abdominal Pain in Patients with Symptomatic Gastroesophageal Reflux Disease (sGERD): PI
 – Marc J. Zuckerman. Sub-Investigator: Carmela P. Morales, MD. Clinical Trial. Pharmaceutical
 Sponsor AstraZeneca Pharmaceuticals.
- A Multicenter, Randomized, Double-Blind, Double-Dummy, Parallel-Group Efficacy Study
 Comparing 8 Weeks of Treatment with Esomeprazole Magnesium (40 mg qd) to Lansoprazole
 (30 mg qd) for the Healing of Erosive Esophagitis in Patients with Moderate or Severe Erosive
 Esophagitis: PI Marc J. Zuckerman. Clinical Trial. Pharmaceutical Sponsor AstraZeneca
 Pharmaceuticals.
- Multicenter, Randomized, Double-Blind, Double-Dummy, Parallel-Group Comparison of the Remission Rates for Once Daily Treatment with Esomeprazole 20 mg and Lansoprazole 15 mg for 6 months in Patients whose EE Has Been Healed: PI Marc J. Zuckerman. Clinical Trial. Pharmaceutical Sponsor AstraZenenca Pharmaceuticals.
- <u>Initial Experience of Capsule Endoscopy at Thomason General Hospital</u>: PI- Marc J. Zuckerman, MD. Sub-Investigators: Carmela P. Morales, MD, Rodrigo Saenz, MD and Nancy Casner, MS. Unfunded, Investigator Initiated.
- A 6-week randomized, double-blind, placebo-controlled, multicenter study, to assess the efficacy and safety of tegaserod (6mg BID) and placebo in female patients with dyspepsia: PI –

- Marc J. Zuckerman. Sub-Investigator: Carmela P. Morales, MD. *Clinical Trial. Pharmaceutical Sponsor Novartis Pharmaceuticals*.
- A randomized, double-blind, placebo-controlled, multicenter evaluation of the efficacy and safety of tegaserod (6 mg b.i.d.), administered orally for 12 weeks, in male patients with chronic constipation: PI Marc J. Zuckerman. Sub-Investigator: Carmela P. Morales, MD. *Clinical Trial. Pharmaceutical Sponsor Novartis Pharmaceuticals*.
- A 6-week randomized, double-blind, double-dummy placebo-controlled, multicenter study to assess the effect of tegaserod 2mg t.i.d. and 6mg t.i.d., on dyspeptic symptoms in diabetic patients with symptoms of diabetic gastropathy: PI Marc J. Zuckerman. Sub-Investigator: Carmela P. Morales, MD. Clinical Trial. Pharmaceutical Sponsor Novartis Pharmaceuticals.
- An Eight-Week, Randomized, Double-blind, Placebo-Controlled, Dose-Ranging Study to Evaluate Efficacy and Safety of Talnetant in Subjects with Irritable Bowel Syndrome: PI Marc J. Zuckerman. Sub-Investigators: Carmela P. Morales, MD, William M. Chamberlin, MD. Clinical Trial. Pharmaceutical Sponsor GlaxoSmithKline.
- A randomized, double-blind, placebo-controlled multicenter study to assess the efficacy, safety, and tolerability of tegaserod alone and in combination with omeprazole given orally in patients suffering from symptomatic gastroesophageal reflux disease (sGERD): PI Marc J. Zuckerman. Sub-Investigators: Carmela P. Morales, MD, William M. Chamberlin, MD Clinical Trial. Pharmaceutical Sponsor Novartis Pharmaceuticals.
- A Phase 3 Study to Evaluate the Efficacy and Safety of TAK-390MR (60 mgQD) and 90 mgQD) and an Active Comparator, Lansoprazole (30 mgQD) on Healing Erosive Esophagitis PI Marc J. Zuckerman. Sub-Investigators: Carmela P. Morales, MD, William M. Chamberlin, MD Clinical Trial. Pharmaceutical Sponsor TAP Pharmaceuticals.
- A Phase 3 Study to Evaluate the Efficacy and Safety of TAK-390MR (60 mgQD and 90 mgQD) Compared to Placebo on Symptom Relief in Subjects with Symptomatic Non-Erosive Gastroesophageal Reflux Disease (GERD): PI Marc J. Zuckerman. Sub-Investigators: Carmela P. Morales, MD, William M. Chamberlin, MD Clinical Trial. Pharmaceutical Sponsor TAP Pharmaceuticals.
- A Phase 3, Open-Label Study to Assess the Long-Term Safety of TAK-390MR (60 mg QD and 90 mg QD): PI Marc J. Zuckerman. Sub-Investigators: Carmela P. Morales, MD, William M. Chamberlin, MD Clinical Trial. Pharmaceutical Sponsor TAP Pharmaceuticals.
- <u>A 12-Week, Randomized, Double-Blind, Dose-Ranging, Placebo-Controlled Study of Asimadoline in Subjects with Irritable Bowel Syndrome</u>: PI -Marc J. Zuckerman, M.D. Subinvestigators: Carmela P. Morales, M.D., William Chamberlin, M.D. *Clinical Trial. Pharmaceutical Sponsor Tioga Pharmaceuticals, Inc.*

Research Collaborations with other Departments:

- A Multicenter, Randomized, Open-Label, Phase 3 Study to Compare the Safety and Efficacy of Intravenous Doripenem with that of Intravenous Imipenem in Ventilator-Associated Pneumonia: PI Kallol Chaudhuri M.D. Sub-Investigators: Swapna M. Chaudhuri M.D., Harold W. Hughes, M.D., Robert T. Reilly, Pharm.D., Alan H. Tyroch M.D. Clinical Trial. Pharmaceutical Sponsor Peninsula Pharmaceuticals.
- A Multicenter, Randomized, Open-Label, Phase 3 Study to Compare the Safety and Efficacy of Intravenous Doripenem with that of Intravenous Piperacillin/Tazobactam in Hospital-Acquired Pneumonia: PI Kallol Chaudhuri, M.D. Sub-Investigators: Swapna M. Chaudhuri M.D., Harold W. Hughes, M.D., Robert T. Reilly, Pharm.D., Alan H. Tyroch M.D. Clinical Trial. Pharmaceutical Sponsor Peninsula Pharmaceuticals.
- Assessing the effectiveness of an OSCE experience for medical students at the Texas Tech School of Medicine: PI Lynn S. Bickley Sub-Investigators: Darryl M. Williams, Steven Berk, MD, Eduardo E. Sandoval, **Paul R. Casner, M.D. Ph.D.**, Kathryn V. Horn, Tommie W. Farrell, MD, Betsy G. Jones, Kathryn K. McMahon, Ronald Warner, Manuel Schydlower, MD Unfunded, Educational Study, Lubbock SOM.
- Epidemiological trends in HIV/AIDS infections in Hispanic females in El Paso. PI Bahij S. Nuwayhid, MD Sub-Investigators: Edeliola T. Makinde, MD, Armando D. Meza, MD. Unfunded, Investigator Initiated.
- ➤ <u>CMS Texas Disease Management Demonstration Program</u>. PI Mary C. Spalding, MD. Sub-Investigators: **Tamis M. Bright, MD.** Center for Medicare and Medicaid Services (CMS) Demonstration Project. *Grant Funded through: XL Health*.
- Amebiasis in Paso del Norte region. PI Easwaran Variyam. Sub-Investigator: Marc J. Zuckerman, M.D. Unfunded, Investigator Initiated.