



## William E Feeman

Bowling Green Study, USA

### Enhanced prediction of the population at risk of atherothrombotic disease

**Introduction:** The holy grail of the prevention of atherothrombotic disease (ATD) lies with the prediction of the population at risk of ATD. Many different risk predictors have been advocated, but none universally accepted. The author presents his risk predictor based on the characteristics of those who have developed some form of clinical ATD during the 4November 1974-4November2003 time frame.

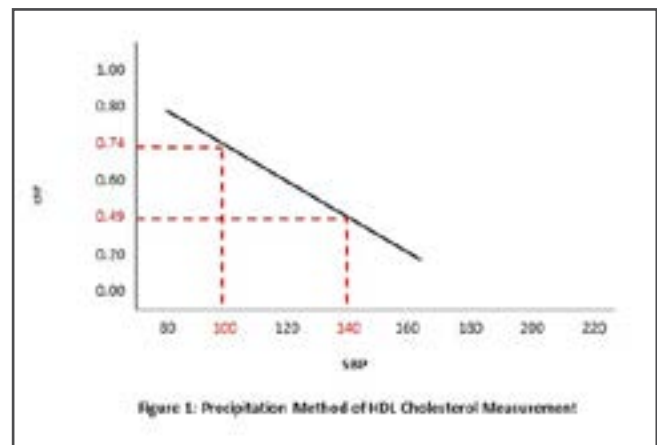
**Purpose:** Following the precepts of the Framingham Heart Study, the author has analyzed the constellation of ATD risk factors that characterize the ATD population and has generated a predictive tool that accurately characterizes that population.

**Methods:** The author has examined his patient population database and separated out those who developed some form of clinical ATD during the study timeframe, compared with those who did not.

**Results:** The population who developed ATD is characterized by cigarette smoking, dyslipidemia, and (often) hypertension, with some contribution from uncontrolled diabetes. ATD patients are defined by an abnormal lipid ratio, as defined by the Cholesterol Retention Fraction (CRF, defined as  $[\text{LDL-HDL}]/\text{LDL}$ ) with/without cigarette smoking and/or hypertension. This is best seen in a risk factor graph with the CRF on the ordinate and systolic blood pressure (SBP). The graph is characterized by a threshold line with CRF-SBP co-ordinates (0,74,100) and (0.49,140), above which lie the CRF-SBP plots of 93% of all of the ATD patients (710 patients)

in the author's practice (See Figure.1). Fine tuning of risk prediction is done by stratification by cigarette smoking status, and the outcomes of the ATD patients are given in Table I. Additional risk stratification is done by stratifying CRF vs SBP and CRF by LDL-cholesterol. Any therapy that brings the CRF-SBP plot below the threshold line results in plaque stabilization/regression in a minimum average of 76% of cases.

**Conclusions:** The population at risk of ATD is predictable and hence preventable.



 Notes:

**Table I  
ATD w/r to ASR Line  
1974-2003**

Sex	Average Age of		Above ASR Line			Below ASR Line		
			+	Past	-	+	Past	-
<b>Male</b>								
		Total Patients	126	130	86	20	14	8
	ATD Onset	Total Patient Years	6659	8536	5913	1174	1041	623
		Ave. Age of ATD Onset	53	66	69	59	74	78
		Total Patients	38	41	32	6	5	1
	MSD Onset	Total Patient Years	2363	2983	2522	382	402	78
		Ave Age of MSD Onset	62	73	79	64	80	78
		Total Patients	49	64	47	12	11	4
	Death	Total Patient Years	3153	4780	3805	815	879	374
		Ave Age of Death	64	75	81	68	80	94
<b>Female</b>								
		Total Patients	65	56	137	18	15	34
	ATD Onset	Total Patient Years	3852	3908	9955	1145	1003	2543
		Ave. Age of ATD Onset	59	70	73	64	67	75
		Total Patients	22	24	49	6	7	16
	MSD Onset	Total Patient Years	1534	1800	3931	440	532	1283
		Ave. Age of MSD Onset	70	75	80	73	76	80
		Total Patients	26	23	79	9	7	23
	Death	Total Patient Years	1830	1824	6542	650	533	1941
		Ave. Age of Death	70	79	83	72	76	84

**ATD means Atherothrombotic Disease**  
**"+" means Current Cigarette Smoker**  
**"Past" means Former Cigarette Smoker**  
**"-" means Never Cigarette Smoker**  
**MSD means Multiple System Disorder**  
**ASR Line means Angiographic Stabilization/Regression Line**

### Speaker Biography

William E. Feeman Jr., MD, is a Physician on staff at Wood County Hospital, and in private practice, both in Bowling Green, Ohio. He attended undergraduate school at Ohio State University (1961-1966) and became interested in a career in medicine during that time; prior to his decision to enter medicine he planned to have a career in astronomy. He attended undergraduate medical school at Ohio State University, earning Bachelor of Science in physiology (1961-1966) and medical school at Ohio State University (1966-1970); where he developed an interest in the primary and secondary prevention of atherothrombotic disease. Over the last 26 plus years, he has spent his professional life in medicine perfecting a tool to predict the population at risk of atherothrombotic disease and to guide therapy to maximally stabilize/reverse that disease if extant. Thus he has founded the Bowling Green Study of the Primary and Secondary Prevention of Atherothrombotic Disease (BGS) to which he is the principal investigator. This study terminated on 4 November 2003. Dr. Feeman has had six major articles published in various science/medical journal. He has had numerous letters to the editor published in various medical journals. All publications relate to the primary and second prevention of atherothrombotic disease. He has presented data at a number of annual scientific assemblies of the American Academy of Family Physicians and at a number of national and international symposia in atherothrombotic disease. Dr. Feeman is the founder of the Association for the Prevention of Atherothrombotic Disease in Northwest Ohio to facilitate the spread of knowledge about this disease.

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