AACE Position Statement

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS’ POSITION STATEMENT ON OBESITY AND OBESITY MEDICINE

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OBESITY AS A DISEASE

A. The American Association of Clinical
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position reflects the analysis done by the American
Medical Association of the criteria for a disease and the
fact that obesity fits these criteria. The criteria are:
1. An impairment of the normal functioning of some
aspect of the body;
2. Characteristic signs or symptoms; and
3. Harm or morbidity.

The conclusion that obesity is a disease with multiple
pathophysiological aspects, including genetic, environ-
mental, physiological, and psychological factors, sets the
framework for future efforts from many stakeholders to
advance its treatment and prevention.

B. AACE plans to establish several strategies to meet a
need for additional training for endocrinologists in obesity
management;
C. AACE plans to develop a certifying procedure for
endocrinologists who have successfully completed addi-
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D. AACE plans to work with other organizations to
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EXECUTIVE SUMMARY

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OBESITY AS A DISEASE

Obesity is found in nearly one-third of the US adult
population and is currently defined as a body mass index
(BMI) equal to or greater than 30 kg of body weight per
meter squared of height. This arithmetical heuristic is a
proxy for the relative quantity of adiposity and is used to
predict and evaluate disease risk. Values corresponding to
normal weight, overweight, and various classes of obesity
are confounded by body frame and muscularity, sarcope-
nia in aging or disease, spinal deformities, physical dis-
abilities, and transcultural differences. Other markers for
excess body fat and body composition (eg, waist circum-
ference, skin fold thickness, waist-to-hip ratio, waist-to-
height ratio, bioelectrical impedance, and dual energy x-ray
absorptiometry) are used in clinical practice and investiga-
tion, and each has relative advantages and disadvantages.
While obesity research and clinical management may lack
a universally optimal metric, there is copious epidemi-
ologic evidence to support the association of excess body fat with risks for other primary disease states, such as type
2 diabetes mellitus (T2DM) and dyslipidemia. Perhaps
the greatest limitation of any measure that relegates the
diagnosis of obesity to the mere quantity of body fat is the
failure to consider the impact of adiposity on physiological
and metabolic processes that result in increased morbidity
and mortality. So, the question remains: is obesity a pri-
mary disease state that involves more than just a quantita-
tive excess of body fat?

In 1998, the AACE/American College of
Endocrinology Obesity Task Force issued a Position
Statement on the Prevention, Diagnosis, and Treatment of
Obesity (1). This statement reinforced that “Obesity is a
complicated, multifactorial condition characterized by excess
body fat. It must be viewed as a chronic disorder that
effectively requires perpetual care, support, and follow-
up. Obesity causes many other diseases, and it warrants
recognition by health-care providers and payers.” On the
basis of biomedical knowledge that has accumulated since
that time and with a better understanding of the pathophys-
iology of obesity and its impact on the health of individuals
and on society, AACE now strongly asserts that obesity is
a primary disease, and the full force of our medical knowl-
edge should be brought to bear on the prevention and treat-
ment of obesity as a primary disease entity.

The contribution of lifestyle practices in the patho-
physiology of obesity cannot be denied, and neither can the
fact that molecular, genetic, and endocrine processes can
create an obese phenotype. Many physicians have labeled
obesity as a “disease” for more than 250 years, although
many people refer to obesity as a “condition” or “health
problem.” There are a number of perspectives from which
this question could be addressed (2,3). The most direct
scientific approach for adjudicating whether a clinical
construct is in fact a disease would be to first define the
essential characteristics of what constitutes a human dis-
ease and then examine the scientific evidence that empiri-
cally addresses whether obesity meets these criteria. The
American Medical Association has identified the essential
criteria common to all definitions that constitute a disease
(report 4 A-05 of the AMA Council on Scientific Affairs)
(4). These definitions shared in common the following 3
essential characteristics of disease: (a) an impairment of
the normal functioning of some aspect of the body; (b) that
has characteristic signs or symptoms; and (c) results in
harm or morbidity to the entity affected.

Obesity meets these 3 conditions. First, obesity is an
altered physiological and metabolic state, with environ-
mental, genetic, and hormonal determinants, which results
in increased morbidity and mortality. Current data pro-
vide undeniable evidence for an obesity-centric model of
disease with impairment of normal functioning including
appetite dysregulation, abnormal energy balance, endo-
ctrine dysfunction including elevated leptin levels and insu-
lin resistance, infertility, dysregulated adipokine signaling,
abnormal endothelial function and blood pressure eleva-
tion, nonalcoholic fatty liver disease, dyslipidemia, and
systemic and adipose tissue inflammation. Some aspects
of obesity that lead to an impairment in body function are

Abbreviations:
BMI = body mass index;
T2DM = type 2 diabetes mellitus
anatomic and relate to the increase in body fat mass per se such as osteoarthritis, immobility, lymphedema and/or venous stasis, and to some extent sleep apnea. However, critical aspects may also be physiologic, such as the impact of body fat mass on insulin resistance and its associated trait complex with progression to T2DM and cardiovascular disease. Indeed, some have proposed “staging systems” for grading the effect of adiposity on the health of individuals as an approach for intensification of obesity therapy (5,6).

It is also clear that there are behavioral determinants of obesity, some of which are under the control of the individual such as wellness behavior, diet preferences, and physical activity, and other environmental factors that are outside of individual control such as the availability of fresh foods, environmental endocrine disruptors, and sociocultural attitudes and customs. However, obesity is also highly determined by genetic factors that comprise large subsets of at-risk alleles, each conferring a small relative risk, but which in aggregate predispose who will or will not become obese in an obesogenic environment (7). Other sets of overlapping polygenes determine the deleterious effect of adiposity on metabolism, insulin resistance, and progression to T2DM (8) and cardiovascular disease. Thus, like all diseases, obesity is an altered pathophysiological state, and its adverse effects on the health of the individual are the product of environment-gene interactions.

The second criterion for a disease is that it has characteristic signs or symptoms. With obesity, the primary abnormality is the increase in body fat as indicated, in most people, by an increase in the BMI. As discussed above, BMI has its limitations and neglects the extent to which any increase in adiposity adversely alters physiology, metabolism, and health (eg, blood pressure, glucose tolerance, lipids and lipoproteins). Nevertheless, obesity is readily identifiable clinically and has signs and symptoms pertaining to the physical accumulation of fat mass (joint pain, immobility, sleep apnea, low self-esteem, etc). It can also be considered that obesity has symptoms referent to altered metabolism once there is progression to end-organ disease such as T2DM and cardiovascular disease.

Finally, a disease results in harm or morbidity and there is no question that obesity is associated with harm. Both morbidity (9) and mortality (10,11) are increased. Morbidity can be directly related to the physical increase in fat mass and/or the physiological and metabolic derangements that are integral to obesity. It is argued that causality has not been established since this is beyond the reach of epidemiologic studies showing the association between obesity and morbid conditions; however, these arguments become less convincing with accumulating knowledge concerning the overlap between the pathophysiological processes provoked by obesity (inflammation, insulin resistance, and dyslipidemia) and the molecular pathogenesis of associated diseases such as T2DM and cardiovascular disease. From the clinical perspective, it is most relevant that therapeutic interventions directed at reducing excess fat mass, whether by lifestyle intervention, pharmacotherapy, or bariatric surgery, can alleviate obesity-related morbidity and mortality (12-18). Therapies achieving weight loss can improve glycemic control in diabetes; reduce risk of T2DM, cardiovascular disease, and some cancers; and alleviate other obesity-related comorbidities such as osteoarthritis, sleep apnea, and polycystic ovary syndrome. The Centers for Medicare and Medicaid Services determined in November of 2011 (decision memo CAG-00423N) that the “evidence is adequate to conclude that intensive behavioral therapy for obesity, defined as a body mass index (BMI) 30 kg/m², is reasonable and necessary for the prevention or early detection of illness or disability and is recommended with a grade of A or B by the U.S. Preventive Services Task Force.” Furthermore, it is clear that weight loss from lifestyle (12-15), medical therapies (16,17), and bariatric surgery (18) can dramatically reduce the progression to T2DM, reduce cardiovascular disease risk and mortality, decrease stroke, and reduce the incidence of cancer in women.

The conclusion that obesity is a disease represents a paradigm shift that stands in stark contrast to the notion that obesity simply results from the personal tendency to overeat or engage in a sedentary lifestyle. This latter perspective is commonly encountered in our society, as well as in medical circles and governmental policy-making bodies, and is reflected in patterns of health insurance coverage. To say that obesity is not a disease but rather a consequence of chosen lifestyle (ie, overeating and/or inactivity) is equivalent to saying that lung cancer is also not a disease because it was brought about by volitional cigarette smoking. It is the strong contention of AACE that the view of obesity as a behavioral decision is debunked by biomedical evidence. Accordingly, the new paradigm recognizing obesity as a primary disease state has salient social, political, economic, and transcultural implications. The classification of obesity as a disease will help mobilize society towards the importance of prevention and treatment, and enlist the aid of government, health care providers and payers, and scientific and professional organizations. The disease designation fosters change in attitudes and in the financial support needed for more intensive scientific investigation, drug discovery, resources for patient care, and the development of improved strategies for both prevention and treatment. In the end, it will require a collaborative and coordinated effort by physicians, scientists, pharmaceutical companies, health care payers, government, and patients to mobilize the efforts necessary to combat obesity, ameliorate the suffering of patients, and reduce the social costs of this disease.

Of particular concern is the recent evaluation of new obesity medications by the US Food and Drug Administration. While the safety of patients is paramount,
AACE, although recognizing the important effort of other societies, has elected to focus its efforts on the role and education of clinical endocrinologists, leading to expertise and certification within this internal medicine subspecialty. With today’s understanding of obesity as a complex hormonal, neuronal, and metabolic disease with derangement of energy balance leading to multiple comorbidities, it is clear that highly trained and qualified endocrinologists can provide clinical leadership and mentoring in this area.

The treatment of obesity extends beyond simple weight loss and includes surveillance and treatment for obesity-related complications. It is important to consider that available and emerging therapies do not often achieve and maintain ideal body weight for patients, and a component
of overweight and obesity will often persist together with
other risks for cardiometabolic disease. Obese patients at
any stage commonly present with metabolic syndrome,
prediabetes, T2DM, dyslipidemia, and cardiovascular dis-
ease, all of which are within the expertise domain of an
endocrinologist. Furthermore, obesity can be caused by a
variety of genetic disorders (eg, Prader-Willi syndrome,
MC4R mutations) and hormonal disorders (Cushing dis-
ease), which underscores the complexity of the disease
and the potentially unique role for the endocrinologist in
that diagnostic process. Thus, endocrinologists are well
equipped to provide leadership in the long-term care of
obese patients in a manner that is oriented to reduce both
morbidity and mortality. The certification process is an
important logistical component toward ensuring sufficient
expertise in obesity medicine in combination with existing
expertise in endocrinology, metabolism, and diabetes.
Moreover, obesity medicine education and certification
should be integrated with effective obesity-friendly health
care delivery systems, requisite preparatory physician
training and possible credentialing processes, and subse-
quent clinical practice optimization.

AACE proposes development of a certification pro-
cess for clinical endocrinologists after successful com-
pletion of a formalized AACE educational program in
obesity medicine. This coordinated education and cer-
tification process would focus on the needs and special
expertise of the clinical endocrinologist. This process
will also produce highly skilled and capable leadership
and educators in the care of obese patients and in the
health care community.

Part 3: Professional Society Collaboration
It is obvious that obesity medicine has many stake-
holders among medical specialties and their respective
professional societies. Besides clinical endocrinologists,
a list of professional stakeholders includes general intern-
ists, family medicine specialists, bariatric and metabolic
surgeons, gastroenterologists, cardiologists, educators,
and other allied health professionals. All have roles to
play in a reinvigorated effort to combat obesity as a dis-
ease. AACE intends to collaborate with other professional
societies, government, industry, and other organizations to
effectively combat obesity on many levels. The role of the
clinical endocrinologist will be better delineated, not only
in how an Obesity Comprehensive Care Plan can be fash-
oned, but also how a multidisciplinary team approach can
be exercised in the care of the obese patient.

AACE proposes a national collaboration among
stakeholders in obesity patient care to foster a criti-
cal mass of expertise across specialties to advance
an Obesity Comprehensive Care Plan. In addition to
developing obesity medicine education and practice
management tools specifically tailored for clinical
endocrinologists, AACE will also seek to codevelop and/
or participate in obesity medicine education, research,
and social advocacy programs with other professional
societies, government, and stakeholder groups.

Part 4: Advocacy for Social Change
to Promote Antiobesity Strategies
With the recognition that obesity is indeed a disease,
greater advocacy is needed. This should include increased
recognition of the impact of the obesity epidemic, more
effective and scientifically-based antiobesity legislation
and health care policy, more critical data-driven evalua-
tion of new antiobesity drugs by the US Food and Drug
Administration in a manner that appropriately considers
both risk and benefit, and the provision of public health
activities addressing obesity. As more endocrinologists
transition to the care of the obese patient under the new
education and certification paradigm, there will be a need
to provide guidance and up-to-date information related to
practice management and reimbursement issues.

AACE will advocate for change to benefit patients
with obesity and enhance the treatment and preven-
tion of obesity as a disease. Efforts will be directed at
the level of government, health care policy, scientific
research, drug development, and public health. AACE
proposes enhancement of its socioeconomic and legisla-
tive resources to maintain effective advocacy and stay
abreast of developments in government, industry, and
the health care system regarding obesity. AACE will
optimize coding and reimbursement for obesity medi-
cine practice.

DISCLOSURE

Dr. Jeffrey Mechanick has received honoraria from
Abbott Nutrition for lectures and program development.
Dr. Alan Garber has served as a consultant for
NovoNordisk, Daiichi Sankyo, Merck, Takeda, Santarus,
Liposcience, Boehringer Ingelheim, Sekris, Lexicon,
Halozyme, Tethys, and Vivos and has been a speaker for
NovoNordisk, Merck, Santarus, and Daiichi Sankyo.
Dr. Yehuda Handelsman has received grants for
research from Boehringer Ingelheim, ConjuChem,
GlaxoSmithKline, Lexicon, NovoNordisk, sanofi, Xoma,
and Tolerx; has served as a consultant for Amarin, Amylin,
Daiichi Sankyo, Gilead, Halozyme, Janssen, LipoScience,
Merck, NovoNordisk, sanofi, and Santarus; has served
on the speakers’ bureaus for AstraZeneca, Boehringer
Ingelheim, Bristol-Myers Squibb, Daiichi Sankyo,
GlaxoSmithKline, Lilly, NovoNordisk, and Santarus;
and has served as the associate editor for the Journal of
Diabetes and as the immediate past president for the
American Association of Clinical Endocrinologists.
Dr. Timothy Garvey has no multiplicity of interest to
disclose.
REFERENCES


