

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ
سَلَامَتِ مَرْدَانِ
MEN'S HEALTH

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فلوشیپ آندوارولوژی - فلوشیپ پیوند کلیه

دانشیار اروولوژی دانشگاه ع پ بیرجند

جراح پیوند کلیه بیمارستان رازی

سالروز ولادت با سعادت حضرت فاطمه زهرا سلام الله عليها سرور بانوان جهان، عطای خداوند سبحان، کوثر قرآن، همتای امیر مومنان علی علیه السلام و الگوی بی بدیل تمام جهانیان و روز مادر و همچنین سالروز میلاد حضرت امام خمینی (ره) بنیانگذار جمهوری اسلامی ایران مبارک باد.



سلامت مردان



Global Men's Health Movement

- Iran is a leading country that has men's health program.

- In 38 out of 43 countries for which provisional data were available, as of June 10, 2020, more men than women have died from COVID-19 despite a similar number of confirmed cases in each sex.
- In several countries, including the Netherlands, Dominican Republic, and Spain, about twice as many men as women have died from COVID-19.
- Baker, P., White, A., & Morgan, R. (2020). Men's health: COVID-19 pandemic highlights need for overdue policy action. *The Lancet*, 395(10241), 1886-1888.

- Men's lower immune responses gendered practices and behaviours related to masculinity, including smoking and drinking, engaging less in preventive public health measures such as mask-wearing or handwashing, delayed health-care seeking, could contribute to men's vulnerability to COVID-19.
- Baker, P., White, A., & Morgan, R. (2020). Men's health: COVID-19 pandemic highlights need for overdue policy action. *The Lancet*, 395(10241), 1886-1888.

- The higher prevalence of pre-existing comorbidities in men than in women, such as cardiovascular disease, diabetes, and hypertension, is also likely to be a factor in men's susceptibility to severe COVID-19.

- Baker, P., White, A., & Morgan, R. (2020). Men's health: COVID-19 pandemic highlights need for overdue policy action. *The Lancet*, 395(10241), 1886-1888.

- It is increasingly well understood by WHO and others that the Sustainable Development Goal (SDG) of reducing premature mortality from non-communicable diseases (NCDs) would be more quickly achieved if the disproportionate burden of many NCDs among men was reduced.

- Baker, P., White, A., & Morgan, R. (2020). Men's health: COVID-19 pandemic highlights need for overdue policy action. *The Lancet*, 395(10241), 1886-1888.

- The 2015 global average life expectancy (LE) at birth was 71.4 years (World Health Organization, 2016).
- Examining the data more closely, however, females out-lived males in every country.
- The global female population lived, on average, 73.8 years while males lived, on average, 69.1 years.

- Rovito, M. J., Leonard, B., Llamas, R., Leone, J. E., Talton, W., Fadich, A., & Baker, P. (2017). A call for gender-inclusive global health strategies.

- According to the latest WHO data published in 2018 life expectancy in Iran is: Male 74.6, female 76.9 and total life expectancy is 75.7 .

- <https://www.worldlifeexpectancy.com/iran-life-expectancy#:~:text=Iran%3A%20Life%20Expectancy&text=According%20to%20the%20latest%20WHO,Life%20Expectancy%20ranking%20of%2064.>

- Even in Switzerland, where males have the highest LE at 81.3 years, males still fall short of the Swiss female LE by 2 full years.
- Japanese females, alternatively, have the highest LE and outlive their male counterparts by approximately 6 full years.

- Rovito, M. J., Leonard, B., Llamas, R., Leone, J. E., Talton, W., Fadich, A., & Baker, P. (2017). A call for gender-inclusive global health strategies.

- LE, along with infant mortality rates perhaps, provides for a broad glimpse of a country's cumulative performance with respect to health outcomes.
- Keep in mind, however, that LE is a raw measure and that it speaks little, if anything, to the quality of life or productivity in society

- Rovito, M. J., Leonard, B., Llamas, R., Leone, J. E., Talton, W., Fadich, A., & Baker, P. (2017). A call for gender-inclusive global health strategies.

- In addition to the total life duration, differences in healthy-life expectancy (HLE) are commonly observed between genders.
- HLE is a metric that corrects the mean life expectancy by weighted disability factors to derive the number of years on average that a particular country's citizens are free from chronic illness.

- GBD 2015 DALYs and HALE Collaborators, 2016

- Between 2008 and 2010 HLE for males at birth in the United Kingdom was 63.5 years, equivalent to more than 81% of total life expectancy spent in very good or good general health.
- For women in the United Kingdom, HLE at birth was more than 2 years higher in the same period, at 65.7 years.

- Tokudome et al., 2016; UK Office for National Statistics, 2012; Van Oyen et al., 2013

- U.S. females outlived males by almost 5 years in 2014 (Men's Health Network, 2016).
- The difference is illustrated by higher death rates in 9 out of the 10 leading causes of death for males compared to females.

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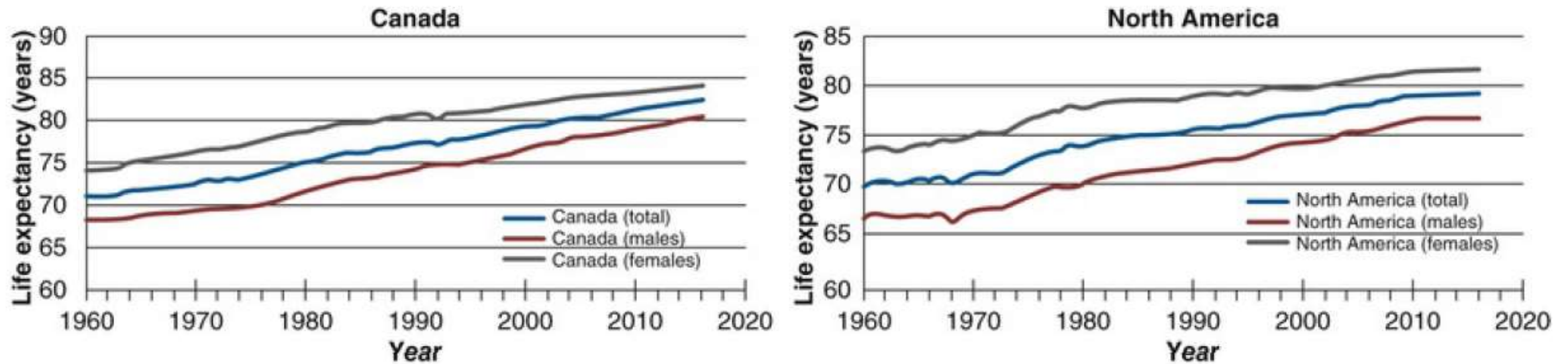


FIG. 65.1 Life expectancy at birth over recent decades, demonstrating improvements in longevity for males and females. (Data from The World Bank.)

Partin, A. W., Wein, A. J., Kavoussi, L. R., Peters, C. A., & Dmochowski, R. R. (2020). Campbell Walsh Wein Urology, E-Book. Elsevier Health Sciences.

- The leading cause of death for both sexes, heart disease, indicates a serious health trend: Death rates (per 100,000) are 210.9 and 131.8 for males and females, respectively.
- Cancer, the second leading cause of death, produced a death rate difference of roughly 60 per 100,000 between U.S. males and females flatly state that the health of men and boys are “substantially worse” than women and girls globally and that little is being done to formally call attention to this concern.
 - Partin, A. W., Wein, A. J., Kavoussi, L. R., Peters, C. A., & Dmochowski, R. R. (2020). Campbell Walsh Wein Urology, E-Book. Elsevier Health Sciences.

در ایران روزانه ۸۰۰ تا ۸۵۰ نفر فوت می کنند
 ۸۶٪ علت این مرگ ها به خاطر بیماریهای غیر واگیر دار است
 جدول ۸۶٪

خراسان جنوبی ۱۳۹۰	درصد	علت فوت
۳۸٪	۴۶	بیماریهای قلبی و عروقی
۱۲/۴٪	۱۴	سوانح و حوادث
۱۲/۴٪	۱۳	سرطان ها
؟	۲	دیابت
؟	۱۱	سایر بیماری های غیر واگیر

Major Causes of Death, United States 2016

CAUSE OF DEATH	ANNUAL NO. OF DEATHS	MALE-TO-FEMALE INCIDENCE RATIO
Heart disease	633,842	1.12
Cancer	595,930	1.11
Chronic obstructive lung disease	155,041	0.88
Accidents	146,571	1.73
Stroke	140,323	0.71
Dementia	110,561	0.44
Diabetes	79,535	1.18
Influenza/pneumonia	57,062	0.89
Nephrological conditions	49,959	1.03
Suicide	44,193	3.33

From Centre for Disease Control and Prevention/National Center for Health Statistics (CDC/NCHS): *National vital statistics system, mortality 2017*, Atlanta 2017, US Department of

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- A few factors place males at higher risk for premature death and illness:
 - (a) males have less access to and engage with the health-care system less regularly,
 - (b) males are typically employed in the most dangerous occupations such as mining firefighting, and the military, and
 - (c) males are raised with risk-taking and masculine social constructs, among others, like tobacco use, alcohol abuse, adverse dietary factors, and sedentary behaviors
-
- Rovito, M. J., Leonard, B., Llamas, R., Leone, J. E., Talton, W., Fadich, A., & Baker, P. (2017). A call for gender-inclusive global health strategies.

- Hazardous pursuits such as alcohol use, smoking, and risky sexual practices are more prevalent among men.
- As expected, ratios of drinking rates between males and females were greater than 1.0 in 98 of 104 evaluated countries.
- Furthermore, lifetime abstainers from alcohol were far more likely to be female.
- High-volume alcohol consumption was also more prevalent among men.

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- It was estimated that in 2010, 3.14 million men, as opposed to 1.72 million women, died from causes linked to excessive alcohol use
- (Lim et al., 2012).

- The ill effects of tobacco exposure are well known, accounting for almost 25% of all cardiovascular disease.
- Importantly, a recent study has demonstrated that almost 50% of deaths associated with 12 different cancer types were related to smoking, including liver, colon and rectum, lung, oral cavity and throat, esophagus, larynx, stomach, pancreas, bladder, kidney, and cervical cancer, as well as acute myeloid leukemia.
 - Partin, A. W., Wein, A. J., Kavoussi, L. R., Peters, C. A., & Dmochowski, R. R. (2020). Campbell Walsh Wein Urology, E-Book. Elsevier Health Sciences.

Masculinity Defined Norms of Behavior and Attitudes Toward Health

- As a result, global masculinity has evolved, in part, into a construct that predisposes men to early death and disability.
- There are many examples of how this plays out in the practical world. Men, for instance, do not visit primary care doctors as often as women do.

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- Although women may have a reproductive bias in favor of more visits, even when maternity-related visits are accounted for, women in the United States visit their practitioners one third more times than men.
- Men are less likely to be compliant with prescribed medications, although a few exceptions have been noted.
- Men are also less likely to adhere to physician care plans than women and are less likely to undergo recommended screening services.

- Partin, A. W., Wein, A. J., Kavoussi, L. R., Peters, C. A., & Dmochowski, R. R. (2020). Campbell Walsh Wein Urology, E-Book. Elsevier Health Sciences.

Physical and Chemical Exposure in the Workplace

- Throughout the globe, men are more likely to die from work-related injuries than women.

- Partin, A. W., Wein, A. J., Kavoussi, L. R., Peters, C. A., & Dmochowski, R. R. (2020). Campbell Walsh Wein Urology, E-Book. Elsevier Health Sciences.

- Despite intensive education campaign, much of the developed world has a problem with increasing body weight
 - (Swinburn et al., 2011),
- especially in North America, where obesity prevalence is approaching 40% in the United States
 - (Hales et al., 2017),
- 32.4% in Mexico, and 26.7% in Canada.
 - (Organization of Economic Co-operation and Development [OECD], 2017).

- Innovative programs designed to reach out to men through their preferred sport activities have been shown to be promising.
 - ([Bottorff et al., 2015](#)).

- caution to a prevalent theme of “normalizing” the notion that males live sicker and die younger.
- The gaps between LE and overall mortality and morbidity among males and females are not “normal” phenomena and need to be corrected

- Rovito, M. J., Leonard, B., Llamas, R., Leone, J. E., Talton, W., Fadich, A., & Baker, P. (2017). A call for gender-inclusive global health strategies.

- In the United States, male life expectancy at birth (76.4 years) is on average 4.8 years lower than female life expectancy (81.2 years)
- Men in the United States continue to present with higher lifetime risks for heart disease, cancer, diabetes, HIV/AIDS, suicide, liver disease, and additional morbidities than women.
- These gender differences in disease prevalence and life expectancy are not unique to the United States.

- Houtman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- This is perpetuated by the fact that men have had a general reluctance to seek help from physicians and other health care practitioners when it comes to their own health. Men are less likely than women to be aware of disease symptoms, and men use primary care services less frequently than women.

- Houtman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- This is particularly relevant to mental health, since men experience suicide rates nearly 4 times higher than women, though men suffer from depression at lower rates.
 - Houman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- Sildenafil became commercially available as Viagra in 1999, and the media began giving extensive coverage to an exclusively male health condition, erectile dysfunction (ED).
- Later, media attention to ED surged after emerging data indicated that ED in young men is associated with a marked increase in the risk of future cardiac events.
- This opened the floodgates to the discussion of other related issues like male intimacy, depression, heart disease, prostate cancer, diabetes—or collectively “men’s health”.

- Houtman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men’s health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- Men's health clinic should include urologic issues, ED, testosterone replacement, sleep medicine, mental health, addiction health, cardiology, dermatology, and hair loss.
- Academic centers are now providing a comprehensive approach to men's health, with physicians who are comfortable managing male endocrine, sexual, reproductive, surgical, physical performance, and psychological issues. In addition, various academic urology programs are now offering fellowship training in men's health, covering sexual dysfunction, infertility, and andrology.

- Houman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- As oral PDE-5 inhibitors such as Cialis and Viagra are and Urology widely utilized to treat ED, cost remains prohibitive for some patients with ED.
 - Houman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- Some patients have turned to herbal remedies as a way to alleviate ED symptoms.
- Most of these herbs have no human studies supporting their use in humans; however, Panax ginseng and Butea superb have some evidence of improved erectile function in humans, however the data have not yet been reproduced.
 - Houman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- ED is one of the early signs of cardiovascular disease.
- While approximately 50% of men will experience some form of ED, only approximately 25% actively seek consultation.
 - Houman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

- Hundreds of ED clinics exist, which provide men with a variety of ED treatment options, including low intensity shock wave lithotripsy (LISWT), intracavernosal injections, platelet rich plasma injections, and testosterone therapy.
- Additionally, for profit men's clinics rarely address preventative medicine and most treatments offer symptomatic relief rather than teaching lifestyle modification, health screening, and addressing underlying issues of ED such as cardiovascular disease.
 - Houtman, J. J., Eleswarapu, S. V., & Mills, J. N. (2020). Current and future trends in men's health clinics. *Translational andrology and urology*, 9(Suppl 2), S116.

Metabolic Syndrome and Men's Health

- Metabolic syndrome is defined as a series of interconnected biochemical, physiologic, metabolic, and clinical factors that increase the individual's risk of type 2 diabetes mellitus (T2DM), heart disease, and early mortality.
- In 1988 Reaven (Reaven, 1988; Reaven, 1993) described an aggregate of risk factors for cardiovascular disease and diabetes that he named Syndrome X.
- Syndrome X was renamed the deadly quartet in 1989, incorporating glucose intolerance, hypertriglyceridemia, hypertension, and upper body obesity (Kaplan, 1989).
- Finally, the term metabolic syndrome was coined in 1998 by the World Health Organization

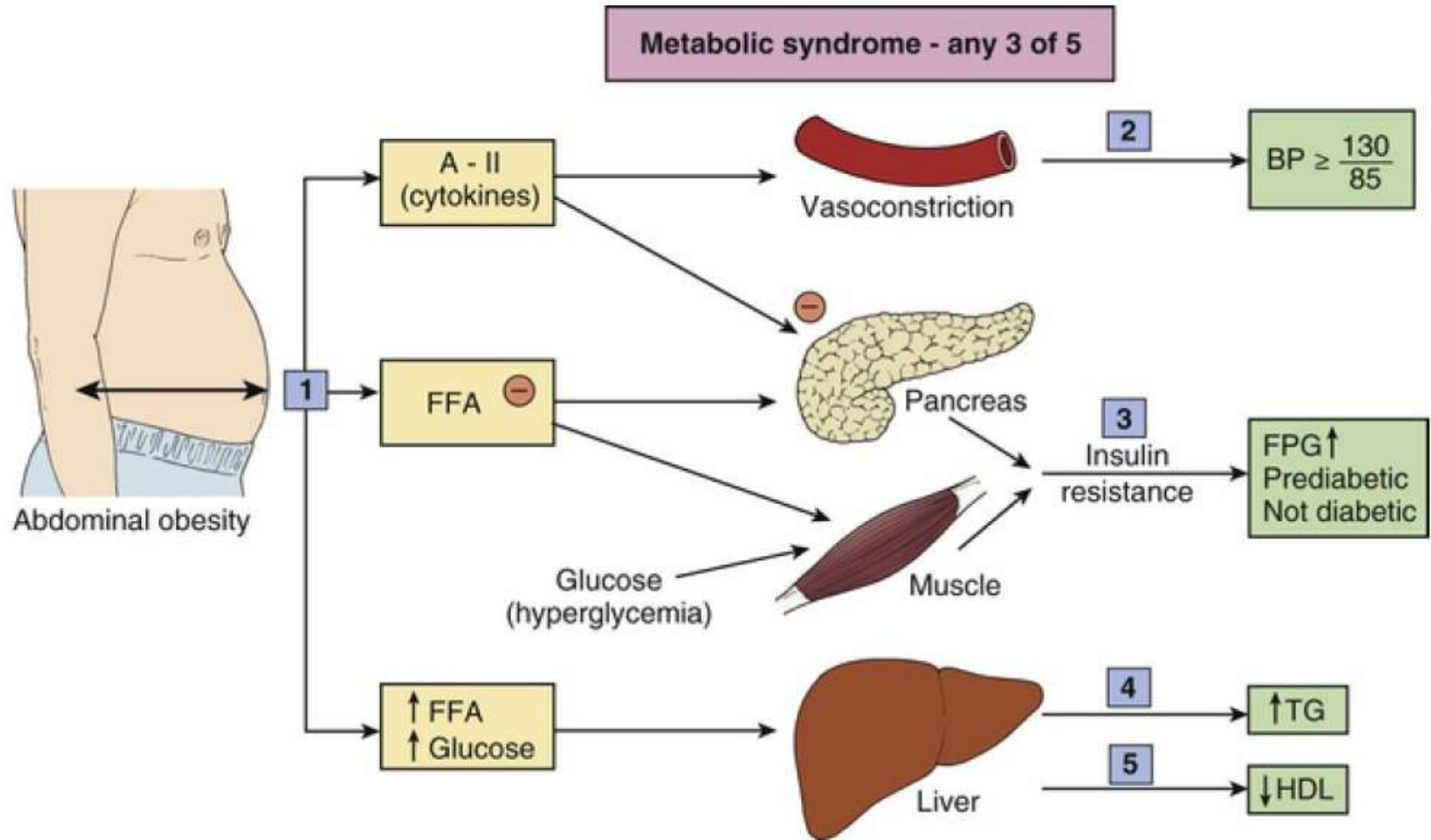


FIG. 65.2 Diagnosis of metabolic syndrome requires a tape measure, an accurate eye, and fasting lipogram, plasma glucose measurements, and blood pressure measurements. (Adapted from Lionel H. *Circulation* 115-e32-e35, 2007.)

Metabolic Syndrome Definitions and Criteria

CLINICAL PARAMETER	WHO (1999)	EGIR (Balkau and Charles, 1999)	ATP III (NCEP, 2001)	AACE (Einhorn et al., 2003)	IDF (et al., 2005)
Obesity/body fat distribution	Waist/hip ratio >0.90 in men, >0.85 in women; or BMI >30 kg/m ²	Waist circumference ≥94 cm in men, ≥80 cm in women	Waist circumference >102 cm in men, >88 cm in women	BMI ≥25 kg/m ²	Waist circumference ≥94 cm in men, in women
Insulin resistance/hyperglycemia	IGT, IFG, T2DM, or other evidence of insulin resistance	Hyperinsulinemia (plasma insulin >75th percentile)	Fasting glucose ≥110 mg/dL	Fasting glucose ≥110 mg/dL	Fasting glucose ≥126 mg/dL or T2DM
Triglyceridemia	≥150 mg/dL	≥177 mg/dL	≥150 mg/dL	>150 mg/dL	>150 mg/dL or on treatment

Metabolic Syndrome Definitions and Criteria

Cholesterol	HDL-C <35 mg/dL in men or <39 mg/dL in women	HDL-C <39 mg/dL	HDL-C <40 mg/dL in men; <50 mg/dL in women	HDL-C <40 mg/dL in men; <50 mg/dL in women	HDL <40 mg/d in men; <50 mg/d in women
Blood Pressure	≥140/90 mm Hg	≥140/90 mm Hg or on treatment	>130/85 mm Hg	≥130/85 mm Hg	>130 mm Hg or on treatment
Other	Microalbuminuria ^a			Other features of insulin resistance ^b	

- Risk factors for metabolic syndrome include sedentary lifestyle, excess caloric intake, and higher socioeconomic status.
- In the National Health and Nutrition Examination Survey (NHANES) advancing age and advancing weight were associated with metabolic syndrome. As an example, 5% of subjects with normal weight had metabolic syndrome compared with 60% of obese individuals.
- Similarly, 10% of individuals aged 20 to 29 had metabolic syndrome compared with 45% of those 60 to 69 years old

- Ford et al., 2002

- In general, it is believed that genetic risk factors interact with lifestyle exposure (physical inactivity, smoking, caloric excess, psychological stress) to create a positive energy imbalance.
- This in turn leads to adiposity with concomitant alteration in fatty acid metabolism and increased release of adipokines (Fig. 65.3).
- Ultimately, this leads to endothelial dysfunction, atherogenic dyslipidemia, insulin resistance, hypertension, hypercoagulability, and low-grade inflammation.

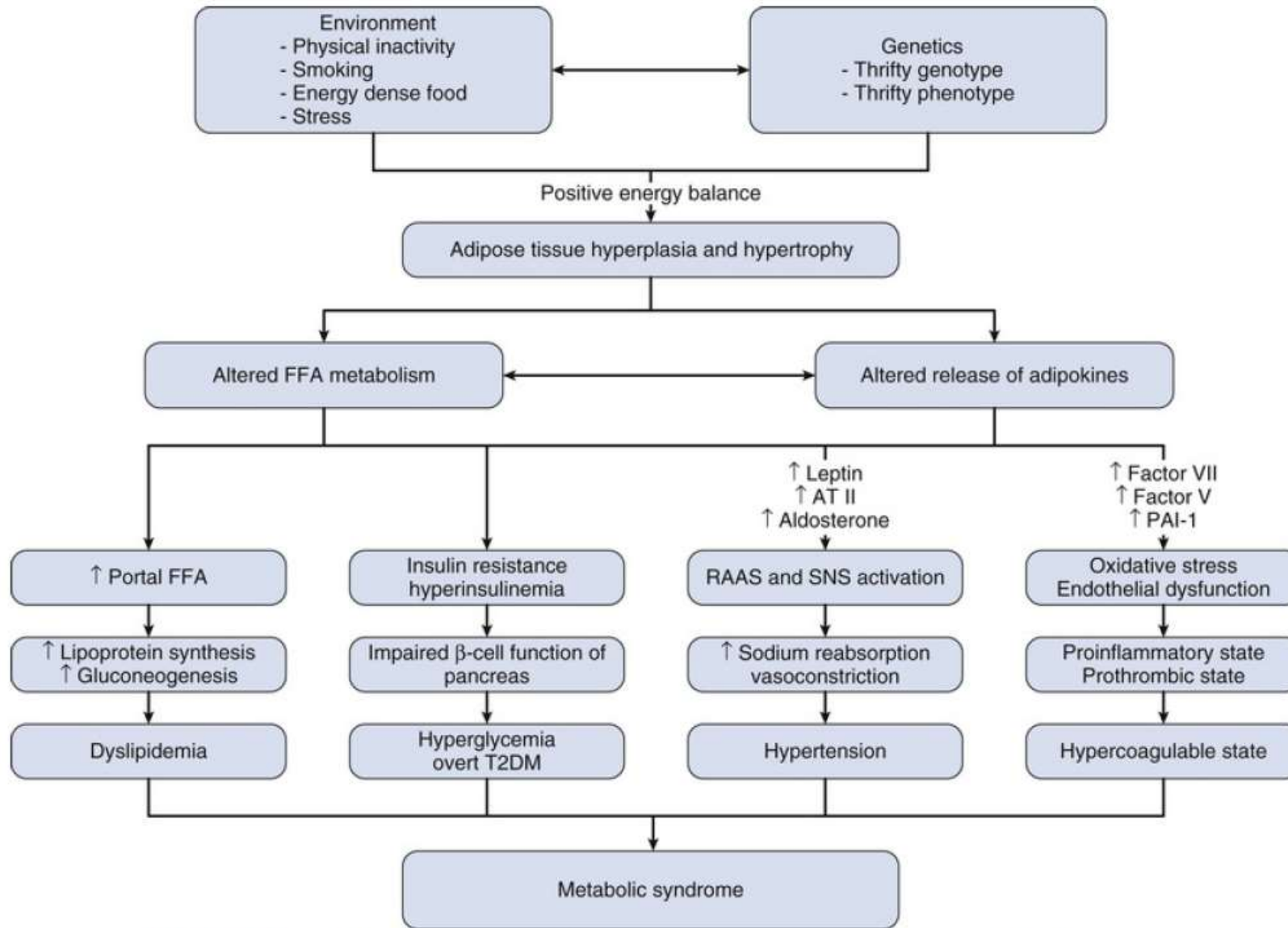


FIG. 65.3 Schematic presentation of metabolic syndrome. *AT II*, Angiotensin II; *FFA*, free fatty acids; *PAI-1*, plasminogen activator inhibitor 1; *RAAS*, renin-angiotensin-aldosterone system; *SNS*, sympathetic nervous system; *T2DM*, type 2 diabetes mellitus.

Metabolic Syndrome and Urologic Disorders

- Although metabolic syndrome was classically associated with elevated risk of cardiovascular disease, diabetes, and stroke, it in fact has a broader range of manifestations.
- Certainly, cancers common in developed nations, such as colorectal and breast cancers, may be linked to metabolic syndrome
 - (Bhandari et al., 2014; Esposito et al., 2012; Esposito et al., 2013a; Esposito et al., 2013b; Jinjuvadia et al., 2013).

Renal Conditions

- The three major renal conditions associated with metabolic syndrome are renal insufficiency, urolithiasis, and renal cell carcinoma (RCC).

- Renal disorders are a major cause of death and disability in the developed world.
- It is estimated that 1 in 10 residents of the United States suffers from chronic kidney disease
 - (De Nicola and Zoccali, 2016).

- Rates of renal replacement therapy, transplantation and dialysis, are growing
 - (Tonelli et al., 2011; Tonelli et al., 2018)
- as populations age and risk factors for renal disease become more prevalent.
- Furthermore, even patients with chronic kidney failure who do not require renal replacement therapy appear to have accelerated rates of death, largely from cardiovascular disease
 - (Go et al.,2004).

- have accelerated rates of death from
- Hypertension and diabetes
 - (Kastarinen et al., 2010),
- obesity
 - (Bruck et al., 2018),
- and perhaps nontraditional risk factors such as anemia, hyperphosphatemia, high plasma C reactive protein and fibrinogen, high sympathetic activity, and accumulation of endogenous inhibitors of nitric oxide synthase (Salem, 2002). These processes are consequences of metabolic syndrome

Stones

- Urolithiasis is more frequently found among patients exhibiting features of metabolic syndrome.
- calcium oxalate and uric acid stones were more prevalent among patients with obesity.

• Chou et al. (2011),

Tumors

- Obesity, for example, is a well established risk factor for RCC among women.
- T2DM is associated with a 26% increase in risk of RCC in men
 - systematic review conducted by Larsson and Wolk 2011

- metabolic syndrome was significantly associated with bladder cancer (RR 1.10, 95% CI 1.02–1.18)
 - the meta-analysis by Esposito et al.,(2012).

Overactive Bladder

- There is increasing evidence for a link between overactive bladder (OAB) and metabolic syndrome

Lower Urinary Tract Symptoms

- Epidemiologic data suggest that LUTS may be associated with metabolic syndrome.
- Inflammation has been proposed as a common mechanistic link between these clinical entities.
- Several studies have demonstrated that components of metabolic syndrome such as hyperinsulinemia, T2DM, dyslipidemia, and hypertension directly correlate with a proinflammatory and fibrotic state
 - (Devaraj et al., 2009; Fagerberg et al., 2008; Fibbi et al., 2010; Greenfield and Campbell, 2006; Powell, 2007).

Prostate Cancer

- The inflammatory and cytokine-induced mitogenic environment associated with metabolic syndrome is also highly carcinogenic. Pivotal work by Bhindi et al. demonstrated that men with metabolic syndrome are more likely to have cancer and to exhibit high-risk features among a cohort of men presenting for prostate biopsy
 - (Bhindi et al., 2014, 2015, 2016).

Low Testosterone and Erectile Dysfunction (ED)

- A number of epidemiologic studies support the associations between obesity (Bajos et al., 2010; Larsen et al., 2007), the metabolic syndrome, (Bal et al., 2007; Kupelian et al., 2006), T2DM (Malavige and Levy, 2009), and low serum testosterone (Wu et al., 2010) with sexual dysfunction, including ED (Diaz- Arjonilla et al., 2009).

- there is a complex and often multidirectional relationships between obesity, metabolic status, low testosterone levels, and ED in men.
- Cohort and case-control studies support a bidirectional association between low serum testosterone concentration and metabolic syndrome.
- Low serum total testosterone is associated with the development of central obesity and intra-abdominal adiposity

- In addition, lower androgen axis measures such as total and free testosterone and sex hormone binding globulin (SHBG) levels are associated with an increased risk of metabolic syndrome.
 - (Allan and McLachlan, 2010; Brand et al., 2011; MacDonald et al., 2010).

- Castration therapy among older men with prostate cancer induces metabolic syndrome (Faris and Smith, 2010; Morote et al., 2015) and elevated risk of cardiovascular disease and type 2 diabetes (Alibhai et al., 2009; Keating et al., 2006).
- From the opposite point of view, high BMI, central adiposity, and the metabolic syndrome are also associated with low androgen axis parameters (Allan and McLachlan, 2010; Brand et al., 2011; Laaksonen et al., 2005; MacDonald et al., 2010).

- It therefore appears that the association between these two clinical entities is bidirectional.
- ED is also associated with metabolic syndrome, given its interaction with hypertension, diabetes (extreme of glucose intolerance), obesity, vasculopathy, and generalized inflammation (Wang et al., 2011).

Targeting Metabolic Syndrome

- Diet and Exercise
- Statins
- Metformin
- Testosterone Therapy

Metformin

- Numerous epidemiologic studies suggest that men with diabetes treated with metformin have lower risk of incidence and death from a number of cancers, including prostate (Margel et al., 2013b) and potentially bladder carcinoma (Richard et al., 2018).

- As previously stated, although metabolic syndrome is associated with low testosterone levels, treatment with exogenous testosterone may partially reverse individual aspects of metabolic syndrome, such as facilitating weight loss, reducing lipolysis, and potentially providing additional benefits.
 - (Anaissie et al., 2017; Shigehara et al., 2018).

- Given the association of obesity with various urologic conditions such as BPH, sexual dysfunction, hypogonadism, and urologic cancer, a more holistic approach is a valuable addition in providing quality care. Obesity, defined as a BMI of at least 30 kg/m² in adults by the National Institutes of Health, has been associated with a myriad of conditions, including various aspects of metabolic dysfunction such as dyslipidemia, T2DM, hypertension, cardiovascular disease, and stroke
 - (Chu et al., 2015).

Testosterone Replacement Therapy

- The use of testosterone replacement therapy in countering low testosterone levels that occur as part of the aging process is controversial because of inadequately elucidated effectiveness and safety profile.
- Recent large-scale randomized trials demonstrated some improvements in sexual and physical function and vitality.
- Limited clinical trial evidence and retrospective cohort analyses suggest that testosterone replacement therapy increases the risk of cardiovascular events.

Important points in Testosterone Replacement Therapy

- (1) limiting the diagnosis of testosterone deficiency to symptomatic males with unequivocally low testosterone levels.
- (2) recommending against testosterone replacement therapy in men planning fertility in the near term, in men with breast or prostate cancer, or in those with significant prostate cancer risk, elevated hematocrit, untreated severe obstructive sleep apnea, severe lower urinary tract symptoms, uncontrolled heart failure, myocardial infarction or stroke within the last 6 months, or thrombophilia.
- (3) discussing the potential risks of therapy associated with testosterone replacement therapy, clarifying that there are currently insufficient data to establish a causal association between cardiovascular disease and testosterone supplementation.

Association Between Cardiovascular Disease and Erectile Dysfunction

- Predisposing Factors
 - There are a host of predisposing risk factors and underlying pathophysiologic processes for CVD and ED. These include, but are not limited to dyslipidemia, smoking, hypertension, and T2DM.
 - The underlying mechanisms of CVD and ED include inflammation, atherosclerosis, and endothelial dysfunction

- More importantly, ED may be the single warning of the elevated risk of sudden CVD events

Mental Health and Opioid Abuse in Men

- Mental illnesses, including anxiety, depression, and suicide, are becoming increasingly prevalent in men, while concomitantly being underdiagnosed.
- More specifically, more than 6 million men suffer from depression, including symptoms such as fatigue, irritability, and loss of interest in work or hobbies.

Consequences of Opioid Abuse

- In recent years the emotional and economic consequences of opioid misuse on public health has increased dramatically and is now understood as a major source of morbidity and mortality in the United States.

- some 33,000 people died of opioid overdoses in 2015 (including 15,000 from prescription sources), and currently more than 115 Americans die daily after overdosing on opioids

- Centers for Disease Control and Prevention/National Center for Health Statistics [CDC/NCHS], 2017).

- men are still significantly more likely to misuse, overdose, and die from opioids.

Gonadal Dysfunction

- Male gonadal function is affected by opioid use and abuse. By disrupting the pulsatile release of gonadotropin-releasing hormone (GnRH), opioids suppress the hypothalamic-pituitary-gonadal axis and result in hypogonadism.
- In light of the growing prevalence of opioid use, clinicians who treat hypogonadism should continue to take note of the potential contributions of chronic opioid use as a causative agent for symptomatic hypogonadism.

- Mental health issues, including anxiety, depression, and suicide, are increasingly prevalent in men and are concomitantly being underdiagnosed.
- • More than 6 million men in the United States suffer from depression, including symptoms such as fatigue, irritability, and loss of interest in work or hobbies.
- • Men are at higher risk for suicide, with a rate approximately four times higher than that of women.

- • Opioid abuse is now a leading health care crisis, with significant morbidity and mortality.
- • The opioid epidemic is notable for the expansiveness of the problem in the United States, spanning divisions of gender, race, age, and income level.
- • Clinicians who treat hypogonadism should be cognizant of the relationship between chronic opioid and symptomatic hypogonadism.

Building an Integrative Men's Health Center

- Urologic and cardiac conditions make up a significant portion of men's health issues.
- Moreover, attention toward exercise, nutrition, and complementary and alternative solutions will provide a more robust approach.

Curriculum

- Miner et al. (2018) developed a comprehensive and sensible approach to integrative men's health. The four general categories are the following:
- 1. Conditions that are unique to men (e.g., prostate cancer, prostate disease, and ED)
- 2. Diseases or illnesses more prevalent in men compared with women (e.g., CVD, stroke, and renal disease)
- 3. Health issues for which risk factors and adverse outcomes are different in men (e.g., obesity)
- 4. Health issues for which different interventions to achieve improvements in health and well-being at the individual or population level are required for men (e.g., access to care)

تشکر از توجه شما

