Galen (130- ~210 CE, **Fig. 17**) was physician to several Roman Emperors. He classified overweight individuals as *pachis* (fat), *efsarkos* (overweight, a natural condition) and *polisarkos* (obese, a morbid condition, derived from poly (much) and sarka (flesh). A person with *polisarkos* was “exceeding fat”. In *De Methodo Medendi,* Galen described the typical patient with polisarkos as *"unable to walk without sweating and unable to reach the table when sitting due to the size of his stomach, with difficulty breathing, and unable to clean himself"* (Papavramidou, Papavramidis, and Christopoulou‐Aletra, 2004). He regarded *polisarkos* as due to a preponderance of phlegm, one of the 4 body humours in Greek medical thought, and he underlined the resulting dangers to life, particularly an increased risk of sudden death.

Galen gave a detailed description of his recommendations in *de Victu Attenuante*. He suggested that obesity should be treated by strenuous running, warm baths, a light meal and more physical work; affected individuals should eat only once per day, and then in proportion to the amount of exercise that they taken. Proposed medications included various diuretics such as seed of wild rue with its tops, the round birthwort, the small centaury, gentian, poley and Macedonian parsley (Bussemaker and Daremberg, 1863). Massage with oils containing these herbs was also thought to be helpful.

Galen claimed that he could make a "*sufficiently stout patient moderately thin by compelling him to do rapid running*" (Shell, 2003), and he reported in *De Sanitate Tuenda* (160 CE): *"I reduced a huge fat fellow to a moderate size in a short time, by making him run every morning until he fell into a profuse sweat; I then had him rubbed hard, and put into a warm bath; after which I ordered him a small breakfast, and sent him to the warm bath a second time. Some hours after, I permitted him to eat freely of food, which afforded but little nourishment; and lastly, set him to some work which he was accustomed to for the remaining part of the day"* (Haslam and Rigby, 2010).

**Later Byzantine physicians**. The idea of a linkage between a "moist" temperament and obesity persisted among Byzantine physicians.

***Aetius***. Aetius of Amida (5th century CE) authored a 16-volume medical text that was subsequently arranged as a 4-volume set. the *Tetrabiblos*. It drew heavily on the works of Galen and Oribasius. Aetius saw the optimum body temperament as a balance between extremes of leanness and obesity, of softness and hardness, of heat and cold, and of moisture and dryness. However, obesity could arise from a faulty lifestyle, as well as by inheriting a predisposing temperament (Olivieri, 1935).

***Alexander***. The physician and medical author Alexander of Tralles (~ 525-605 CE) suggested that obesity reflected an altered balance of the temperaments, which he located in the stomach. Most commonly, the problem was an extremely cold temperament; this led to a desperate need for food, and he recommended the counter-treatment of feeding "warm" foods, namely unmixed wine and very fatty protein such as legs of pheasants and pork meat; these caused satiation and appeased the underlying hunger. However, obesity could also reflect the opposite extreme, an excess of heat, with a need to correct the problem by ingesting food with cooling properties. A further possibility was an anomaly of retentive function (Trallianus and Goupyl, 1556).

***Theophilus Protospatharius***. Theophilus Protospatharius (9th century CE) discussed obesity in his comments on Hippocratic aphorisms (Papavramidis and Christopoulou‐Aletra, 2007). Obesity was seen as an unhealthy situation, because the natural faculties did not “*calm down*.” Such a situation eventually led to death. The body humors became jellied, causing hypertension and problems of digestion. There was no adhesion of food to the tissues, no assimilation and this ultimately brought about the death of the patient.

**Longevity**. Although obesity was described by many of the ancient Greek and Roman philosophers, and was well recognized amongst the aristocracy, it was often attracted negative attitudes, and its prevalence in the various strata of society remains unclear. Many Greek leaders appear to have lived what would have been an unusually long life for an obese individual, for example Thales (78 years), Anaximenes (57 years), Heraclitus (67 years), Solon (80 years), Empedocles (60 years), Pythagoras (75 years), Hippocrates (90 years), Asclepius (84 years), Aristotle (62 years), Plato (82 years), and Antisthenes (80 years).

A census conducted by the Roman Emperor Trajan (53-117 CE) claimed to find11,000 centenarians (Oswald, 1878), but many of the group had probably exaggerated their age because the society of that era tended to venerate those who were very old.

**References to obesity in classical literature and art**. We may cite two specific examples of gross obesity from the classical literature of the Greco-Roman world- Dionysius and Magas. Dionysius is described by Claudius Aelianus (170-235 CE) in his "*Historical Miscellany"* (Bevegni and Adami, 2003) as the tyrant of Heraclea Pontica during the 4th century BCE. Dionysius became sufficiently fat that he earned the nickname of Pompikos ("stately, magnificent"). He could not eat food unless it was introduced into his stomach by artificial means, and had difficulty in breathing. Moreover, he frequently fell asleep when conducting official business, to the point that his servants had to poke long needles into his skin to waken him. His outer layer of fat was relatively insensitive, but when the needle penetrated to healthy tissue, he was awakened. He became ashamed of his condition, and lived secluded in a small tower from which only his head emerged to bark orders. In the opinion of Aelianus *"By the gods, that was an absurd way to cover himself: to prefer a sort of cage for wild beasts to a dress for human beings! "* Nevertheless, Dionysius did not renounce his gluttony, and he is reputed to have said that he wanted to die with his mouth full, "*rotting away in pleasure*" (Shell, 2003).

Dionysus.tiff

**Fig. 18**. A second century Roman representation of Dionysus, the God of wine. Source: https://en.wikipedia.org/wiki/Dionysus

Magas, King of Cyrene (317-250 BCE), was also weighed down by monstrous masses of fatty tissue in his final days, and he is aid finally to have choked himself to death (Kryger, 1983), an incident that the historian Agatharchides, (2nd Century BCE), cited with great relish (Africa, 1961).

Some Greek authors satirized those who were obese. Thus, in the 5th century BCE comedy *Plutus*, the playwright Aristophanes described the grossly overweight as stupid gluttons, figures of mockery and disgust: *''bloated, gross and preseniled... they are fat rogues with big bellies and dropsical legs, whose toes by the gout are tormented*" (Allardyce, 2015).

The Roman representation of Dionysus, the God of wine and the personification of self-indulgence, is not particularly fat (**Fig. 18**), but the Roman tutor of Dionysus, the mythical horse-like Silenus, did have a pot-belly, and obesity was a feature of the self-indulgent Bacchus/Dionysus, as seen for instance in the paintings of Rubens.

**Pathological consequences of obesity**. The recognition of a link between obesity and abnormal sleep patterns, as described in Dionysius and Magas, dates back to Hippocrates: "*Others, when their diet bears too great a proportion to their exercise, not only sleep well at night, but are likewise drowsy in the day; the repletion still increases, and their nights begin to grow restless; their sleep afterwards becomes disturbed with frightful dreams of battles*" (MacKenzie, 1758).

By the second century CE, Greek physicians were also aware of the link between obesity and diabetes mellitus. The celebrated Cappadocian physician Aretaeus wrote: "*Diabetes is a wonderful affection, not very frequent among men, being a melting down of the flesh and limbs into urine. Its cause is of a cold and humid nature as in drops*y" (Aretaeus, 2010).

***Conclusions***. In classical Greece, the ideal body type was athletic, and the longevity of many leading thinkers suggests that they conformed to this phenotype. Obese individuals were satirized by playwrights, and because of public disapproval some were even reluctant to show themselves in public. But at the same time, the interest of a large number of physicians in the causes and treatment of obesity, and a knowledge of some of its complications suggests that a substantial number of wealthy patients carried an excess of body fat.

Avicenna.tiff

**Fig. 19**. Avicenna, a leading figure of mediaeval Arabic medicine and advocate of a healthy lifestyle. Source: https://www.google.ca/imgres?imgurl=http://www.thefamouspeople.com/profiles/images/avicenna-2.jpg

**The mediaeval Arab world**

Obesity was well-known to leading physicians of the mediaeval Arab world such as Al Razi, Avicenna, Ibn Hubal Al-Baghdady, and Ibn el Nefis. Most of these scholars were well aware of the medical complications attendant upon gross obesity, and they recommended treatment by a combination of vigorous exercise and dietary change.

Al-Razi (?854-925 CE) was a Persian polymath who practiced medicine in mediaeval Baghdad. He wrote several books on nutrition, including one entitled "*Benefits of food and the warding off of its harmfulness*" (Nikaein, Zargaran, and Mehdizadeh, 2012 ). In his *Encyclopaedia of Medicine*, he also reviewed existing knowledge of obesity. He presented clinical case reports on the patients he had treated successfully; the therapy that he ha recommended for the obese included diet, drugs, exercises, massage, hydrotherapy, and lifestyle changes. One new idea was that "*prolonged thinking that leads to sadness slims"  
]*

Obesity was also well known to Abu Ali Ibn Sina (Avicenna, 980-1037 CE, **Fig. 18**), another of the leading figures of early Arabic medicine (Nathan, 1992). He devoted a part of Volume 3 of the *Canon of Medicine* to a discussion of the drawbacks of excessive obesity, classifying it as a medical disorder, and noting associated health risks, including respiratory and cardiac problems, infertility and sudden death. He was a strong advocate of a positive lifestyle (Avicenna, 1999), arguing: "*The regimen of maintaining health consists essentially in the regulation of 1) exercise, 2) food and 3) sleep. Once we direct the attention towards regulating exercise as to amount and time, we shall find there is no need for such medicines as are ordinarily required for remedying diseases."* if obesity was all ready established, he proposed treating it with hard exercise and lean foods. On occasion, he also prescribed an appetite suppressant for his obese patients, based on sweet almonds, beef suet, violets and marshmallow (Haslam, 2016).

Nafis.tiff

**Fig. 20**. The Cairo-based physician Ibn al Nafis (107-1288 CE) noted the association between excessive obesity and cardiovascular and cerebro-vascular accidents, respiratory problems and endocrine disorders. Source: https://en.wikipedia.org/wiki/Ibn\_al-Nafis

Ibn Hubal Al-Baghdady (1121-1213 CE) also practiced medicine in Baghdad. Like Avicenna, he commented on the predisposition of “*hugely obese persons*” to fall ill quickly. He concurred with the idea of management by heavy exercises on an empty stomach, but he also stressed the importance of a gradually increasing the training regimen, because an excessively obese person could put himself at risk if he started abruptly on a programme of heavy physical activities.

The Damascus-born Ibn al Nafis (1207–1288 CE) practiced medicine in Cairo (Abdel-Halim, 2005)(**Fig. 20**). He reported further on the association between excessive obesity and cardiovascular and cerebro-vascular accidents, respiratory and endocrine disorders in his book *Al Mujaz Fit-Tibb (The Concise Book of Medicine)*, noting that "*Excessive obesity is a constraint on the human being limiting his freedom of actions."* He distinguished a special type of obesity in that some children were “obese by birth.”

***Conclusions.*** The writings of Persian doctors show that obesity and its complications were well known in this part of the world during the "Arab Spring" of mediaeval learning.

**Mediaeval and Renaissance Europe**

As Christianity became the dominant belief system in Europe, the idea grew that illness was a punishment of God, merited by a person's sinful behaviour. Nevertheless, obesity was not uncommon among the elite, and it was prized by some as a physical manifestation of their wealth (Bloomgarden, 2003).

**Obesity among the wealthy elite**. In much of Europe, the world of the 1300s was marked by hunger and severe food shortages. Episodes of famine seemed to recur at least once every five years. Throughout this era, degraded soils, inadequate storage of food products, slow and difficult transportation networks, and vulnerability to inclement weather contributed to an inadequate diet for most of the world population. Obesity thus became a visible sign of wealth and personal success. Rulers such as Charles III, Louis VI, and Henry VIII all became greatly overweight, as did many of their senior officials (Bloomgarden, 2003).

Charles.tiff

**Fig. 21.** Charles the Fat, Carolingian Emperor from 881-888 CE. Source: https://www.quora.com/Why-is-Charles-the-Fat-called-Charles-the-Fat-and-not-some-more-appropriate-or-kingly-title-such-as-the-great

***Charles III.*** Charles III, the Carolingian Emperor from 881-888 CE, was nicknamed "Charles the fat" (**Fig. 21**). He is reputed to have shown an accompanying lethargy, although the cause of his death, at the age of 56 years is unknown.

***Louis VI.*** Louis VI (1081-1137 CE) was king of France. He was nicknamed "*Le Gros*," and by the age of 40 he had become so obese that he had difficulty leading his army into battle. He died suddenly, supposedly of dysentery, but it seems likely the infection was complicated by his obesity.

***Henry VIII.*** Henry VIII of England (1491-1547 CE) was very athletic as a young man, and he built elaborate exercise facilities into many of his palaces. However, he abandoned exercise following a serious jousting injury, without curbing what was reputed to be a prodigious appetite. A study of his suits of armour shows a progressive increase in waist girth from 81 cm to 140 cm over adult life, with the body mass rising eventually to 178 kg (corresponding to a BMI of 52 kg/m2)(**Fig. 22)**. In his final years, 4 strong men were needed to carry Henry from room to room on a padded chair known as "the King's tram" (Shephard, 2015).

**Fig. 22**. Henry VIII. Source: https://www.google.ca/search?q=Henry+VIII

Hwenry 8.tiff

**Attitudes of the mediaeval church**. The mediaeval Catholic church voiced strong public disapproval of obesity, viewing gluttony as one of the "seven deadly sins" (Shipley, 1875). Pope Gregory (6th century CE) noted 5 potential manifestations of gluttony:

1. Sin in the matter of time, eating before the appointed time.

2. Sin on a question of quality, seeking out delicacies.

3. Sin by the use of stimulant sauces and condiments.

4. Sin in relation to the quantity of food ingested.

5. Sin from eating with undue eagerness (Shipley, 1875).

Other mediaeval church leaders saw expressions of gluttony in:

* *Praeopere* (eating too soon);
* *Laute* (eating too expensively);
* *Nimis* (eating too much);
* *Ardenter* (eating too eagerly);
* *Studiose* (eating too daintily);
* *Forente* (eating wildly) (Wolin & Petrelli, 2009).

Shipley (1875) relates several anecdotes that illustrate the stern attitudes of the mediaeval church towards any hint of gluttony: *"A nun, walking in the garden of her convent... her eyes fell on a lettuce, and... she was tempted to the sin of gluttony. She yielded to the sin, plucked the lettuce, and ate it greedily. But ...as she was eating, a devil entered into her, and she became possessed, with torments." "A monk who gave up himself to the sin of gluttony...lived in a monastery of Lycaonia, and was held in great esteem ... But the unhappy monk was a slave to gluttony; so that, whilst others fasted, he took secret opportunities for eating. At length he was overtaken with a serious illness, which proved to be his last. As the hour of his departure drew near, the monks flocked around his bed, thinking to hear ... something for their soul's edification.." "Brethren... when you fasted, I feasted in secret : for which cause I am given over to the infernal enemy, who has already coiled himself around my feet and knees, and is now reaching my hear*t." With these words he expired." *"A saintly old monk, while sitting at table with other monks, was favoured by GOD with an inward vision, in which it was revealed to him that some of his brethren were eating sweet honey, others were eating plain bread, and others, again, were eating uncleanness... Those who were eating for the sake of eating only, who gave up themselves to the sensual gratification and could think of nothing but their food, were they who fed on uncleanness."*

**Medical attitudes to obesity during the Renaissance.** Renaissance physicians and other scholars in Britain, including Elyot, Cogan, Boorde and Moffett, all advocated moderation and frugality of diet in both scholarly and popular writing.

**Fig. 23.** Louis Cornaro's Four discourses on a sober life. Source: https://www.google.ca/search?q=Luigi+Cornaro

Cornaro.tiff

***Thomas Elyot***. The diplomat and scholar Sir Thomas Elyot(1490-1546 CE) was one of the first Britons to promote the primary prevention of disease. In his treatise *The Castel of Health, he* offered simple rules for a healthy diet and overall lifestyle in a text that was accessible to all who could read Greek (Elyot, 2005). He warned specifically of the dangers to health from over-eating: *"abuse is heere in this realme in the continual gourmandise and dailye féeding on sundrie meats at one meale, the spirit of**gluttony triumphing among vs, in his glorious chariot called welfare, driving vs from him, as his prisoners into his dungeon of surfet, where we are tormented with catars, fevers, gouts, pluresies, fretting of the guttes, and many other sicknesses, and finally put to death by them, oftentimes in youth, or in the most pleasant time of our life.*"

***Luigi Cornaro***. Luigi Cornaro (1464-1566 CE) was a long-lived Venetian nobleman. He devised a personal diet and lifestyle at a relatively young age, when he was informed by doctors that his life of excess was killing him. He turned to temperance and frugality in order to treat his ill-health, and laid down rules for good health in his "*Four Discourses on a Sober Life*" (**Fig. 23**). His basic plan was a restriction of food intake to the minimum needed for survival, and to eat only food that agreed with his constitution. He claimed not only to have lived for somewhere between 98 and 102 years, but also to have retained full mental clarity, good eyesight and robust health until his death. He is said to have eaten about 340 g of food per day, supplemented with a little wine. At one point, his relatives persuaded him to increase his daily intake to 400 g/day, but he found: "*This increase, had, in eight days’ time, such an effect upon me, that, from being cheerful and brisk, I began to be peevish and melancholy, so that nothing could please me. On the twelfth day, I was attacked with a violent pain in my side, which lasted twenty-two hours and was followed by a fever, which continued thirty-five days without any respite, insomuch that all looked upon me as a dead man"* (Cornari, 1993).

***Thomas Cogan***. The Tudor physician Thomas Cogan (1545-1607 CE) recounted the adages of Hippocrates and Galen, adding his own shrewd analogies. On exercise, he wrote: "*Flowing water does not corrupt, but that which standeth still; even so animal bodies exercised, are for the greatest part healthful; and such as be idle are subject to sickness*" (Cogan, 1596).

***Andrew Boorde***. The cleric and physician to Henry VIII Andrew Boorde (1490-1549 CE) wrote the *"Breviary of health."* This blamed obesity upon an excessive consumption of alcohol (Boorde, 1552): *"All sweet wines and grass wines doth make a man fat"* Abstinence is *"the most perfectest medicine that can bee."* He also stated that repletion shortened a man's life, and two meals a day should suffice, except for a labourer. By the time of the publication of his book, he had abandoned the priesthood, and was living on Fleet Street in London, making a handsome living as a jocular purveyor of health foods that were nicknamed "Merry Andrew".

***Thomas Moffett.*** The English naturalist and Paracelsian physician Thomas Moffett (1553-1604 CE) wrote the popular book *"Health's Improvement"* (Moffett, James, and Oldys, 1746). In ithis text, he noted that *"to sleep and sit too much... of itself procureth fatness." "in a Man too much fatness is both a causes of diseases and a disease itself."*

***William Vaughan***. William Vaughan (1575-1641) a doctor of Civil Laws and an early promoter of settlement in Newfoundland, first published his health education text ("*Directions for Health, Naturall and Artificiall*") in 1600 (Vaughan, 1607). He wrote: *"They that observe a good diet, neede no artificiall Physicke." "For how is it possible, that the smoaky vapours which breathe from a fat and full paunch, should not interpose a thick mist of dullness between the body, and the body’s light!’* He criticized 17th century gourmandises, suggesting that health was better before Noah's flood, when food was much simpler. *"They were ignorant of our delicate inventions and multiplied compounds. They knew not of our dainty cates [delicacies], our marchpanes [fancy cakes], nor our superfluous flibber [flighty] sauces."*

**Literary criticism of the obese during the Renaissance**. Criticism of the fat and sedentary person was becoming increasingly prevalent in the fifteenth and sixteenth centuries. Obesity had become associated with slowness, laziness, and ignorance about things and people, and this was reflected in the literature of the period (Haslam and Haslam, 2009).

**Fig. 24.** The obese Grey Friar imploring the butcher to save his life, from the *Heptaméron. Source:* https://ebooks.adelaide.edu.au/m/marguerite\_de\_navarre/h

eptameron/chapter35.html

Butcher.tiff

***William Langland***. In the 14th century allegory *Piers Plowman*, William Langland (1332-1386 CE) has the sin of gluttony excite visceral horror (Levy-Navarro, 2008).

***Giovanni Boccaccio.*** The *Decameron* offers 100 tales written by the Italian novelist Giovanni Boccaccio (1313–1375 CE).St. Thomas Aquinas (1225-1274 CE), a brilliant Italian theologian and Dominican **friar**, was reputed to have been colossally **fat** and hugely fond of his food; perhaps for this reason, he wrote strongly against gluttony. He may also have provided the inspiration for Friar Rinaldo, one of the stereotypically fat clerical characters in the Decameron.

***Giovanni de Medici***. Giovanni de Medici (1421-1463 CE), Cosimo de Medici's libidinous, cultured and favourite son was a typical child of the Renaissance. He cared for art, music and beautiful views. However, he is also known for being grossly overweight.

***Geoffrey Chaucer.*** The English story-teller Geoffrey Chaucer (1343-1400) reiterated the advice of Hippocrates: ''*Agonys glotonye, the remedie is abstinence*." However, he recognized that for some of his contemporaries, being *"full fat"* was a status symbol. The church had relaxed some of its dietary restrictions during the 14th century, and in the Monk's tale, Chaucer highlights the obesity, the sweating faces and the rich food and wine that were being enjoyed by many of the clergy. "*Steaming like a furnace*, " the monk *"stood in goodly case. His bulging eyes****he****rolled about, and hot. They gleamed and red, like fire beneath a pot...He was not as pale as some tormented ghost, a fat swan loved he as best as any roast."*

***Marguerite of Navarre***. The *Heptaméron* is a collection of 72 short stories, written by Marguerite, Queen of Navarre (1492-1549 CE). One tells the tale of a fat cleric, a Grey Friar. When he tried to run from the perceived danger of slaughter by a butcher *"who... would think no more of slaughtering him than if he were an ox or any other beast."* Listening to the conversation of his hosts, he heard the words: *"I must rise betimes in the morning, sweetheart, and see after our Grey Friars. One of them is very fat, and must be killed; we will salt him forthwith and make a good profit off him*." An attempt to jump from the window led to a fall and impeded his escape; the butcher discovered him hiding in a pig sty, and the friar begged for his life (**Fig. 24**).

***Gargantua***. François Rabelais (c. 1483-1553 CE) was the author of the *Life of Gargantua and Pantagruel*, a pentalogy of satiric novels (Rabelais, 2005). Gargantua was pictured as a huge baby, calling for ale immediately after his birth, and drinking the milk of 17,913 cows. As an adult, he had 18 chins (**Fig. 25** ), and when mocked by a crowd in Paris, he drowned many of them in a flood of urine. It looked as though the poor man might burst. *"Why don't you swaddle him round with good girths, or secure his natural tub with strong sorb apple tree hoop? Nay, why don't you iron-bind him, if need be? This would keep the man from flying out and bursting."*

**Fig. 25.** Gragantua, from François Rabelais. Source: https://www.google.ca/imgres?imgurl=https://images-na.ssl-images-amazon.com/images/I/81o27BXYIoL.jpg

Gargantua.tiff

***Martin Luther.*** As a young man, Luther fought stubbornly against the temptations of the flesh, and became haggard from studying and worrying about many supposed transgressioins, but later he became quite obese. Catholics ridiculed Luther (1483-1556 CE), with images of Bibles crushed under a stomach so huge that a wheelbarrow was needed for him to get around (**Fig. 26**). Several days before his death, Luther joked to his friends that he would shortly return to Wittenberg and "*give the worms a fat doctor to feast on*" (Wright, 1864).

***William Shakespeare.*** Shakespeare makes numerous references to obesity in his plays. We may cite from *the Merchant of Venice (Act 1, Sc. II): "They are as sick that surfeit with too much as they are that starve with nothing;"* from the *Comedy of Errors (Act 3. Scene 2)*: "*How dost thou mean a fat marriage? Marry, sir, she's the kitchen wench and all grease; and I know not what use to put her to but to make a lamp of her and run from her by her own light;"* from *Henry IV (Part 1, Act Ii, Scene 4: "There is a devil that haunts thee in the likeness of an old fat man, a tun of man is thy companion;"* from *Julius Caesar, Act I, Scene 2: "Upon what meat doth this our Caesar feed, That he is grown so great?"* and from *"As You Like it" (Act II, Scene 7): "then the justice, In fair round belly with good capon lin'd."*

**Fig. 26.** Cartoon of Martin Luther and wheelbarrow. Source: https://www.google.ca/search?q=Cartoon+of+Luther+and+wheelbarrow

Luther.tiff

***Conclusions****.* During the mediaeval period and the Renaissance, both the church and physicians spoke strongly against gluttony, and much of the literature from this era satirized those who were obese. Nevertheless, they did not themselves always heed these injunctions, and various examples of extreme obesity can be found among rulers and senior prelates.

**The enlightenment**

By the 17th century, the tide of public opinion had turned even more strongly against the obese. The physician Thomas Short wrote: *“I believe no Age did ever afford more Instances of Corpulency than our own*” (Short, 1727). He argued strongly the need for exercise in the fight against corpulency, but also had some bizarre ideas about environmental risk factors, advising against living near "*Marshes, fens, ponds or stagnant waters*" and warning against the dangers of flannel shirts; the latter were *"exceedingly injurious to weak people*" because they increased sweating.

**Medical attitudes**. Enlightenment physicians in general continued to treat their patients within the constraints of the classical Greek understanding of physiology, although many recognized that an adverse lifestyle could contribute to obesity, and that its treatment was important in the quest for a long and healthy life-span. Little new was discovered about the pathogenesis or treatment of obesity, but some surgeons made heroic efforts to excise the excess fat. One Parisian surgeon reported excising 4.5 kg of fat from the abdomen of a woman in 1718 CE, with at least temporary relief of her obesity, but often such operations had fatal consequences.

**Fig. 27**. Tobias Venner (1577-1660 CE), a physician in Bath, was the first person to use the term obesity in a medical context. Source: https://en.wikipedia.org/wiki/Tobias\_Venner

Venner.tiff

***Edward Baynard***. EdwardBaynard (1641-1719 CE) practiced medicine in London and in Bath. His *"‘Health, a Poem. Shewing how to procure, preserve, and restore it. To which is annex'd The Doctor's Decade"* (Baynard, 1719) contained much practical advice on dietary moderation, for example: "*Fly all excess and first take care of wine and women to beware." "A little breakfast you may eat, but not so as to satiate.*" "*Accustom early in your youth to lay enbargo on your mouth.*"

***Tobias Venner***. Tobias Venner (1577-1660 CE)(**Fig. 27**) was a medical practitioner who attended some of the socialites who were flocking to the thermal springs and Pump Rooms in Bath. He himself lived to the age of 83 years. He subscribed to Galen's theory of the four body humours, but argued that these could be thrown out of balance by six non-natural factors (environment, diet, sleep, exercise, excretion, and the passions of the mind).

He was the first physician to use the word "*obesity*" in a medical context, and he called specifically for its treatment in his *Treatise,* publishedin 1620. He underlined that obesity was a condition of the elite, and that it could be cured by the combination of an exercise regimen and a balanced diet witjhregular use of the mineral waters of Bath (Venner, 1620): *"to make slender such bodies as are too grosse . . . let those that feare obesity, that is, would not wax grosse, be careful to come often to our Baths: for by the use of them, according as the learned Physician shall direct, they may not only preserve their health, but also keep their bodies from being unseemly corpulent."*

***Thomas Sydenham***. Thomas Sydenham (1624-1689 CE) was a physician who practiced in the city of Westminster. He wrote a textbook of medicine ("*Observationes Medicae"*) which became a reference standard for two centuries. He acknowledged the multifactorial nature of obesity, but also recognized that its origins had a strong lifestyle component: He emphasized "*moderation in eating and drinking is to be observed, so as on the one hand to avoid taking in more aliment than the stomach can conveniently digest, and of course increasing the disease thereby, and on the other hand defrauding the parts by immoderate abstinence*" (Rush, 1809).

**Fig. 28.** George Cheyne (1671-1743), a physician who reached a weight of 203 kg. Source: https://en.wikipedia.org/wiki/George\_Cheyne\_(physician)

Cheyne.tiff

***George Cheyne***. George Cheyne (1671–1743 CE)(Fig. 28) was born in Aberdeen, and became one of the leading physicians of his day. He himself suffered from gross obesity. A self-indulgent youth had left him *"excessively fat, short-breath’d, lethargick and listless,*" and despite some weight reduction during two periods of adherence to a milk and vegetable diet, he returned to meat-eating and regained the lost pounds. Seeking to build up his medical practice, he was constantly *"Dineing and Supping in Taverns, and in the Houses of my Acquaintances of Taste and Delicacy.*" The consequences were a peak weight of 32 stone (203 kg), taking refuge in the "*poison of opiates*," and finding a servant who walked behind him, carrying a stool on which he could recover his breath every few paces (Porter, 2005).

Cheyne wrote of *"The fat, unwieldy and overgrown,"* noting *"tis easier to preserve Health than to recover it, and to prevent Diseases than to cure them . . . without due Labour and Exercise, the Juices will thicken, the Joints will stiffen, the Nerves will relax, and on these Disorders, Chronical Distempers, and a crazy old Age must ensue*" (Cheyne, 1724).

Personal experience had taught Cheyne about the associated depression: *"a disgust or disrelish of Worldly Amusements and Creature Comforts . . . tumul- tuous, overbearing hurricanes in the mind*" (Guerrini, 2000). Cheyne also suffered from a skin disorder that he termed *"skorubtick ulcers"* – and linked his obesity with a poor circulation; his blood had become "*one impenetrable Mass of Gle*w’," with "*every vein and artery like so many black puddings*" (Haslam, 2007).

The poet Alexander Pope (1688-1744 CE) was one patient that Cheyne treated for obesity during the 1730s, and Pope was persuaded to follow a regimen of light wine, few suppers and much water.

***James Mackenize***. In 1758, the Scottish physician James Mackenzie wrote: