

INTRODUCTION

The rules for disease in Hårnmaster are quite generic and quite lethal – the mildest of diseases is likely to kill 5% of the population. In this article, we attempt to revise the rules for disease in a manner that is somewhat less lethal. It is hoped that better disease rules will facilitate the development of better rules concerning aging and child mortality.

These rules are not restricted to Hårnmaster, and may be used reasonably with any pre-modern game system using a Stamina / Constitution attribute in the 0-20 range. Losses to other attributes caused by disease should be assigned to the most similar attribute available (e.g. Agility -> Dexterity, Will -> Wisdom, etc.)

Contagiousness

Diseases are generally propagated via a variety of mechanisms – airborne, food and water, physical contact, etc. This lack of connection between contagiousness and the victim's stamina lead us to suggest that diseases should get a contagiousness value independent of the victim.

With that in mind, individuals roll annually on the general disease chart shown on page 5, rolling again as directed. For example, if a 62 year old rolls a 78, they have been exposed to a childhood disease and roll again on the childhood disease table 11+ column since they are older than 11. The result is the to which disease that individual has been exposed that year; unless that individual has immunity, they will contract the disease. While diseases can occur at any time of year, most diseases occur during the winter months because (a) people are weaker due to low temperatures and, possibly, food shortage and (b) people crowd into small, warm rooms making it easier for diseases to be transmitted. A table is provided to determine which month the disease afflicts the character.

While the actual mechanisms were unknown to the medieval mind, it was generally known that proximity to an infected person meant you might get the disease. With that in mind, for a community you might choose to roll 2 or 3 diseases that are, 'going around' and distribute them to members of the community as appropriate.

Roll	Month
1-2	Nuzyeal/March
3	Peonu/April
4	Kelen/May
5	Nolus/June
6	Larane/July
7	Agrazhar/August
8	Azura/September
9	Halane/October
10	Savor/November
11-13	Ilvin/December
14-17	Navek/January
18-20	Morgat/February

Recovery

With most diseases, the victim either gets better with no lingering effects (beyond immunity) or dies. Most people readily live through most diseases; it is only those with weakened systems that have difficulty.

Unless otherwise noted under the disease description, roll d100 on the following table to determine fatality:

Stamina	Lives	Dies
1-2	01-92	93-00
3	01-93	94-00
4-5	01-94	95-00
6	01-95	96-00
7-8	01-96	97-00
9	01-97	98-00
10-11	01-98	99-00
12	01-99	00
13+	01-00	

People who are malnourished may have penalties to this roll, while people who are properly cared for (i.e. proper bed rest and kept warm) may get bonuses.

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Note that medieval medicine was really no more than an educated guess as to what treatments might do more good than harm. Therefore, in most circumstances a critical success will be required for a physician's aid to help the patient beyond the value of bed rest, while a critical failure will cause a penalty.

DISEASES

To begin with, we classify diseases into four categories – childhood diseases, diseases of old age, common diseases and plagues.

We would like to note that when any disease afflicts an individual, secondary infections of all sorts can occur as the body is weakened. These secondary infections result in pneumonia and other complications. For the purposes of this article, we assume that all such complications are subsumed in the disease recovery roll and are not described in any detail.

The actual disease traits described herein are those gleaned from modern medical information and 19th century incident rates. Diseases with similar symptoms and effects have been lumped together for convenience. We should also note that the actual symptoms are variable from person to person, so the symptoms cannot be easily described more specifically.

Childhood Diseases

Childhood diseases are those which confer immunity to the survivors – measles, mumps and chicken pox fall into this category. Once a character survives this disease any subsequent occurrences are treated as no disease. That is, after a character survives measles rolls of measles are treated as 'None' in subsequent years. While they don't strictly effect children, most adults will have immunity to the most common of these diseases due to prior exposure.

Diphtheria

One of the noted causes of childhood mortality, diphtheria most commonly manifests as a bluish black infection covering the tonsils and throat. It is usually accompanied by a cough and lethargy. The disease runs its course in 3d6 days. Chance of survival is $82 + STA$ on a d100.

Measles

This highly contagious and deadly disease was the primary cause of childhood mortality in medieval times. It is characterized by a

rash, high fever and a cough. Measles lasts 2d6 days and has a high mortality rate. Chance of survival is $28 + STA*4$ on a d100. Most adults will be immune.

Mumps

Mumps is a relatively mild disease noted for extreme inflammation and swelling of salivary glands. The disease runs its course in 2d6 days and has a normal mortality rate (see table on page 1).

Pertusis

Pertusis, also known as whooping cough, is a cold that has a series of spasmodic coughing fits that last $2d6 * 10$ days. While slightly deadlier than ordinary colds, especially in infants, it is really the spectacular symptoms that make this disease notable for roleplaying purposes. Use the normal mortality rate.

Polio

Strictly speaking, polio normally manifests as a non-descript cold with no discernable lingering effects. Here we describe paralytic polio which occurs in only a small percentage of polio cases. Over a period of 4d6 days, the victim is afflicted with 2d6 loss to their adult agility and proportionate loss to their current agility. If agility is reduced below zero, the victim is paralyzed and dies of respiratory failure. All others will survive. Most adults will be immune.

Rubella

Commonly known on Terra as German measles, rubella is much more mild. It is of particular concern due to the effects on fetuses when the mother is infected. Children born to women infected with rubella during pregnancy have a high rate of birth defects such as deafness, cataracts, mental retardation, and damage to internal organs. Use the normal mortality rate (page 1) and assess penalties to any children born to mothers infected while pregnant.

Small Pox

While not nearly as contagious as measles, small pox has a lower survival rate, making it in many ways a more feared disease. The disease is characterized by a rash, fever and general pain, lasting 4d6 days. Survivors are frequently left with scarring as the rash scabs over and falls off causing a d6 loss to comeliness. Chance of survival is $10 + STA*5$ on d100.

Varicella

Also known as chicken pox, varicella is rarely fatal and is characterized by rash and a fever. May cause sterility in adults. Most adults will be immune. No survival roll is needed. Mostly included for roleplaying purposes in that it can be misdiagnosed as small pox or (if the physician is really bad) measles.

Other

This is a catch all category for diseases such as hepatitis, scoliosis, muscular dystrophy, etc. Symptoms may be mild or severe at the GM's option, as is the survival rate.

DISEASES OF OLD AGE

Diseases of old age are heart attacks, strokes and the like – mostly brought on by the body's decline as it ages.

As a note of some interest, the tables are correct in that ailments generally decline in frequency past 80 or so. For reasons that are not completely clear, people who reach their late 80s with a healthy heart (for example) are rather unlikely to have a problem with their heart during their lives.

Arthritis

The stiffening of joints, arthritis causes a permanent loss of d6 to one of Dexterity, Agility or Touch. Speed is lost as Agility is lost. Subsequent occurrences usually effect the same attribute. Reduction of an attribute below zero has no additional effects.

Cataracts

This is actually a catch all for all the various problems encountered in eyesight, hearing and smell as people age. The effect is the permanent loss of d6 to either Eye, Hearing or Smell/Taste. A roll indicating cataracts while the character is in the 41-45 age range is to Eye, reflecting the loss of close in vision (the bifocal effect). At the first incident beyond 45, randomly determine which attribute is effected. Beyond this incident, subsequent occurrences usually effect the same attribute. Reduction of attributes below zero has no additional effects.

Heart Disease

The character suffers a heart attack. Immediate effects include chest pain and shortness of breath. The character suffers a permanent

loss of 2d6 to Stamina. If stamina is reduced to zero, the heart attack is fatal.

Stroke

This covers a range of brain difficulties including major strokes and various bits of dementia such as Alzhiemer's disease. The victim suffers a permanent loss of 2d6 to Intelligence. Reduction of Intelligence to zero is fatal. If the loss is not fatal, the victim also suffers a permanent 2d6 loss to the attribute rolled on the table below. Reduction of these attributes below zero has no additional effects.

Roll	Attribute
1	Dexterity
2	Agility / Speed
3	Touch
4	Eye
5	Hearing
6	Smell / Taste
7	Voice
8	Will
9-10	None

Cancer

We treat cancer as an entire class of degenerative diseases. Add specific additional symptoms as you wish. The basic effect is the permanent loss of d3 Stamina each month until no stamina remains, at which point the victim dies.

Diabetes

Diabetes is an even slower acting debilitating disease than cancer. Each month, there is a 50% chance of the permanent loss of 1 point of stamina until no stamina remains, at which point the victim dies. In addition, like strokes, each month the victim suffers a permanent d3 loss to the attribute rolled on the table below. Reduction below zero of these attributes has no additional effect.

Roll	Attribute
1	Strength
2	Stamina
3	Touch
4	Eye
5	Hearing
6	Smell / Taste
7	Intelligence
8	Will
9-10	None

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COMMON DISEASES

Common diseases are those that effect everyone – colds, influenza, etc. Most of these are mild, and really represent an entire class of diseases rather than a specific pathogen.

Common Cold

The common cold is any of a variety of diseases that cause a cough, sore throat and runny nose lasting d6 days. Rarely fatal in itself, it can weaken the victim enough for complications such as pneumonia to arise. Use the normal mortality rates (page 1).

Food Poisoning

Any of a variety of bacteria entering the digestive tract through tainted food. Effects generally include a fever, abdominal pain and vomiting / diarrhea for d6 days. Use the normal mortality rates (page 1).

Influenza

Any of a variety of viral infections that cause cough, fever, and aches. These are fairly common and have fairly low mortality rates. The disease generally runs its course in 2d6 days. Use the normal mortality rates (page 1).

TRAUMA

For player characters, this result will typically be ignored – they will have plenty of opportunity for an early demise in the course of play. Strictly speaking, trauma is not a disease, but trauma from accidents or violence can certainly kill or have effects that last a lifetime. In this case it is treated as an attack to a random attribute. The adult value for that attribute is reduced as follows:

Roll	Loss
18	Death.
13-17	Lose 2d6 from attribute.
7-12	Lose d6 from attribute.
3-6	Lose d3 from attribute.

If the attribute in question goes to zero (or below), function is lost, e.g. 0 Agility means the character can no longer walk. This may cause character death (e.g. 0 Stamina or 0 Intelligence). If the character survives, describe a suitable injury for the loss – e.g. stick in the eye for a 2d6 loss to Eyesight, etc.

PLAGUES

Plagues are those diseases that do wide-spread damage to populations. They move in, kill some percentage of the population and disappear. These diseases are of the sort that cause populations to panic. We will not discuss these diseases in any detail because they are best treated as one time campaign events to be tailored by the GM.

Historically, not everyone will catch the disease, so a contagion roll is appropriate to determine if individuals catch the disease, Symptoms can be any you choose. Plagues are usually notable for their high mortality rate, 5% or higher.

As an example, I will use the Bubonic plague as seen in Europe. This is a quite lethal disease, with high mortality, killing about a third of Europe's population. However, the transmission vector – fleas from rats – was not terribly efficient. Furthermore, once symptoms appeared, death was highly likely.

To represent this, we will say that during the year of appearance of the disease, the chance an individual will catch the disease is 50%. Once a person has the disease, their survival is rate is STA*3 on d100. This yields roughly 70% fatality. Multiply 50% contagiousness by 70% fatality, and you get an overall mortality of about 35%.

Symptoms include a high fever and headache, fatigue, and the characteristic painful swelling of lymph nodes known as buboes. The disease runs its course in d6 days.

Historically, the disease persisted for a couple of years, but as the local rats became resistant the disease faded. In addition, some proportion of people survived the disease without displaying symptoms, conferring immunity. For simplicity, I would ignore this and just have the disease come rolling through once. It will certainly be terrifying enough to local populations as it is.

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GENERAL DISEASES

Disease	Roll
Food Poisoning	01-20
Common Cold	21-59
Trauma	60-60
Influenza	61-70
Childhood Disease	71-90
Disease of Old Age	91-00

CHILDHOOD DISEASES

Age->	0-10	11+
Measles	01-50	01-50
Vericella	51-75	51-75
Rubella	76-80	76-80
Small Pox	81-83	81-83
Pertusis	84-84	84-84
Diphtheria	85-85	85-85
Polio	86-86	
Mumps	87-87	86-86
Other	88-88	87-87
None	89-00	88-00

DISEASES OF OLD AGE

Age->	26-30	31-35	36-40	41-45	46-50
Arthritis	01-01	01-01	01-01	01-02	01-02
Cataracts				03-89	
Heart		02-04	02-07	90-98	03-13
Stroke					
Cancer				99-99	14-16
Diabetes			08-08	00-00	17-18
None	02-00	05-00	09-00		19-00

Age->	51-55	56-60	61-65	66-70	71-75
Arthritis	01-03	01-03	01-03	01-03	01-03
Cataracts		04-09	04-19	04-29	04-39
Heart	04-17	10-26	20-42	30-56	39-69
Stroke		27-28	43-47	57-66	70-84
Cancer	18-25	26-41	48-65	67-83	85-97
Diabetes	26-27	42-44	66-68	84-87	98-00
None	28-00	45-00	69-00	88-00	

Age->	76-80	81-85	86-90	91+
Arthritis	01-03	01-03	01-02	01-02
Cataracts	04-44	04-49	04-39	04-29
Heart	45-70	50-71	40-56	30-41
Stroke	71-90	72-95	57-76	42-56
Cancer	91-97	96-98	77-78	57-57
Diabetes	98-00	99-00	79-80	58-58
None			81-00	59-00

AGING 1

INTRODUCTION

This article is intended to examine mortality and geriatrics in order to facilitate the generation of rules for the aging of characters for Hårnmaster, though the principles involved could be applied to any role playing game where characters have attributes in the 0-20 range. It is intended to be accompanied by another article on diseases that describes common diseases, childhood diseases and diseases of old age. This article also includes rules for young children maturing.

To use for other game systems, replace the attributes listed for aging with those of the game system you are using. If your game system only has 6 attributes, only list 6 attributes and leave values 7-20 as None. The key is that each attribute should have a 1 in 20 chance of coming up for each roll.

Growing Up

Development in humans is a somewhat subjective thing but, as a general rule, we find the following in Hårnmaster terms:

Strength is generally a function of size and humans continue growth until age 20. Later development is possible, but usually reflects underdeveloped potential from before age 20.

Stamina (or general health) develops quickly for young children, being fully capable of healing at birth, though certain injuries will interfere with growth/development. Children are not necessarily less capable of surviving disease, but rather do not have the accumulated immunities to many of the nastier diseases such as measles.

Intelligence and coordination are fully developed at age 15. Further development is usually more aptly described as learned skills.

Senses are fully functional by the end of the first year or earlier.

Children are generally able to speak well by age 5, though more vocabulary must be learned.

Aura and comeliness are game and aesthetic constructs respectively. No objective data is available as to how these would 'develop'. For these I made up development. Change it as you choose.

With these guidelines in mind, I suggest the following means of evaluating the attributes of child characters:

For each attribute, determine the final adult values for the character using whatever means you choose.

For strength, the child gets 5% of the final value per year until the final value has been achieved, rounding to the nearest integer for in game usage.

Growth spurts may be represented by randomly increasing or decreasing the gain in a given year. For example, a character with a final strength of 13 will gain 0.65 strength each year. To randomize the growth somewhat, I use 3 values – one about 50% less (0.3), one the same (0.65) and one about 50% more (1.0) – and roll a d3 each year to find the gain. This is optional and should only be used for major NPCs.

For stamina, eyesight, hearing, smell and comeliness, the child gets the full value immediately.

For dexterity, agility, speed, touch, intelligence, will and aura, the child gets 7% of the final value per year until the final value has been achieved. Again, these may be randomly varied to show different development rates.

For voice, the child get 20% of the final value per year until the final value is achieved. Again random variation can be used to show different development rates.

To represent child mortality, each year the child should be afflicted with a diseases as described in the companion article on diseases.

Getting Old

This is written with the premise that many of the problems associated with aging are due to the body's decreasing ability to heal. This decline is slow at first and gradually accelerates. To represent this for characters in Hårnmaster terms, roll a d20 on the attribute loss chart the number of times indicated by the character's age below. For all attributes except stamina, roll another d20. If the roll is greater than the attribute, no loss occurs. Otherwise, the attribute decreases by 1. If you are not using the attribute, treat the roll as None. Stamina always decreases by 1.

Roll	Attribute	Age	# of Rolls
1	Strength	0-20	0
2	Stamina	21-40	1
3	Dexterity	41-60	2
4	Agility	61-70	4
5	Touch	71-80	8
6	Eye	81+	16
7	Hearing		
8	Smell/Taste		
9	Voice		
10	Intelligence		
11	Will		
12	Aura		
13	Comeliness		
14-20	None		

If stamina reaches zero, the character dies. However, historically, the most common cause of death was diseases such as influenza. Therefore, once per year each character should be afflicted with disease as described in the companion disease article.

This procedure is consistent with historical data for diseases and mortality through age 80 or so. Beyond 80, historical data is somewhat suspect due to the higher variability in graveyard data (i.e. it's harder to determine age at death) and the fact very few people got to be that old. The available data on diseases of old age suggests that those diseases actually decline in frequency beyond 80 or so. In any case, to prevent a larger number of really old people than I think is likely, the number of rolls dramatically increases past age 70. To reflect further decline beyond age 90 and cap human age at 110 or so, stamina automatically declines at least 1 per year beyond 90. See the Family Trees article available at www.lythia.com for further discussion.

Note that specific rolls only need to be made for important individuals. For important individuals such as PCs and major NPCs, annual rolls should be made for specific attribute decline and disease. For NPCs of note, but little specific interaction, annual disease rolls are sufficient, you may not even know what their attributes are anyway. Finally, for NPCs of only passing interest, a lifespan roll from the Family Tree article should be enough. Use as best suited to your campaign.

Example

Let's take the case of Reneld the Wise, who has the following rolled attributes:

STR: 9	STA: 16	DEX: 12
AGL: 13	TCH: 9	EYE: 8
HRG: 10	SMT: 9	VOI: 13
INT: 15	WIL: 9	AUR: 9
CML: 12		

During his first year, he is afflicted by food poisoning, but easily survives due to his high stamina. His STR is up to 1, DEX is 1, AGL is 1, TCH is 1, VOI is 2, INT is 1, WIL is 1, and AUR is 0. All other attributes are at their full value.

During his second year, he is again afflicted by food poisoning, but survives. AGL is now 2, TCH is 2, VOI is 4, INT is 2 and AUR is 1.

Age 3: Cold, no effect. DEX 2, AGL 3, TCH 3, VOI 7, INT 3, WIL 2.

Age 4: Influenza, no effect. STR 2, DEX 3, AGL 4, TCH 4, VOI 9, INT 4, WIL 3, AUR 2.

Age 5: Food Poisoning, no effect. DEX 4, AGL 5, VOI 12, INT 6, WIL 4, AUR 3.

Age 6: Measles, 82% chance of survival – roll 79. STR 3, DEX 5, AGL 6, VOI 13, INT 7, AUR 4.

Age 7: Cold. STR 4, DEX 6, AGL 7, INT 8, WIL 5, AUR 5.

Age 8: Influenza. STR 5, DEX 7, AGL 8, INT 9, WIL 6, AUR 6.

Age 9: Measles – immune. STR 6, DEX 8, AGL 9, TCH 5, INT 10, AUR 7.

Age 10: Influenza. DEX 9, AGL 10, INT 11, WIL 7, AUR 8.

Age 11: Measles – immune. STR 7, DEX 10, AGL 11, TCH 6, INT 11, WIL 8.

Age 12: Cold. DEX 11, AGL 12, TCH 7, INT 12, WIL 9.

Age 13: Measles – immune. STR 8, DEX 12, AGL 13, TCH 8, INT 13.

Age 14: Cold. TCH 9, INT 14, AUR 9.

Age 15: Cold. INT 15.

Age 16: Cold.

Age 17: Cold. STR 9. All attributes at adult values.

Age 18: Influenza.

Age 19: Food Poisoning.

Age 20: Cold.

Age 21: No Disease. We start annual rolls for attribute loss here. This year we roll a 19 – None.

Age 22: No Disease. Attribute loss 12 = Aura. Roll a second d20. Result of 16 means Aura does not decrease (16 > 9).

Age 23: Influenza. SMT - no loss.

Age 24: Cold. No attribute loss.

Age 25: No Disease. STR - no loss.

Age 26: Food Poisoning. STR loses 1, now 8.

Age 27: Cold. WIL -> 8

Age 28: Food Poisoning. No attribute loss.

Age 29: Cold. EYE - no loss.

Age 30: Cold. STR - no loss.

Age 31: Cold. STR -> 7

Age 32: Cold. STA, no second roll, STA -> 15

Age 33: Cold. No attribute loss.

Age 34: Food Poisoning. HRG -> 9

Age 35: No Disease. No attribute loss.

Age 36: Cold. INT -> 14

Age 37: Cold. HRG -> 8

Age 38: Measles. SMT - no loss.

Age 39: Measles. No attribute loss.

Age 40: Measles. STR -> 6

Age 41: Cold. Now 2 rolls per year for attribute loss. For brevity, we will no longer be only be recording losses for the rest of Reneld's life. HRG 7, SMT no loss.

Age 42: Cataracts - EYE 6. INT 13.

Age 43: Cold. DEX 11.

Age 44: Influenza.

Age 45: Food Poisoning. TCH 8.

Age 46: Food Poisoning. TCH 7.

Age 47: Vericella, no effect. HRG 7.

Age 48: Food Poisoning.

Age 49: Cold.

Age 50: Cold. AGL 12.

Age 51: Influenza. INT 12.

Age 52: Cold.

Age 53: Cold. WIL 7.

Age 54: Cold.

Age 55: Cold.

Age 56: Influenza. WIL 6.

Age 57: Vericella – immune.

Age 58: Pertusis, No Effect.

Age 59: Food Poisoning. INT 11.

Age 60: Cold. SMT 8.

Age 61: Food Poisoning. DEX 10. CML 11.

Age 62: Measles.

Age 63: Measles. VOI 12. WIL 5.

Age 64: No disease. WIL 4.

Age 65: Food Poisoning. WIL 3. EYE 5.

Age 66: Food Poisoning. AUR 8.

Age 67: Cold. INT 10.

Age 68: Heart - STA 7. AGL 10.

Age 69: Food Poisoning – Survival 96% (87). TCH 6. CML 10.

Age 70: Cold – Survival 95% (71). DEX 9.

Age 71: Cold – Survival 95% (06). CML 9.

Age 72: Food Poisoning – Survival 95% (71). TCH 5.

Age 73: Cancer – death 3 months later.

Attributes at 72.

STR: 6	STA: 6	DEX: 9
AGL: 10	TCH: 5	EYE: 5
HRG: 7	SMT: 8	VOI: 12
INT: 10	WIL: 3	AUR: 8
CML: 9		