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<thead>
<tr>
<th>Title</th>
<th>Medical supervision in schools</th>
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<tbody>
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<td>Year</td>
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Medical Supervision of Schools.

During the last fifty years the conditions of school life have been considerably improved. The range of education has been extended, and boys are now able to follow studies suited to the particular bent of their minds. More attention is paid to general culture—and more training than was formerly the case. There is less bullying, the diet is better, and the domestic arrangements are superior. While acknowledging with satisfaction these improvements, it is proper, more attention should be given to sanitary details and hygienic arrangements. The precautions taken to prevent the introduction of infectious diseases into schools are by no means sufficient. Many schools medical supervision is only brought into action in case of actual illness. This is the great point. Medical supervision should extend from the building of the school, in the selection of the locality and site of the school, the construction.
of the building, the ventilation, the warming, the bubbling of water, the drain, &c. The school, twenty Aed., games, and instrumental, those of the under, strict medical supervision. The means taken to prevent the introduction of infectious diseases should originate, and be worked by a medical man.

To carry out these plans there should be a Resident Medical Officer, and at least one Medical Man on the Council of the School. The Medical Officer of Health of the district should be an officer a member of the Board of Management of the School.

Locality

The School should be in the Country, not nearer than three miles to a town. The Country being healthier than towns, and less liable to infectious diseases. Disease originating in a town, may be introduced into a School by the following ways: (1) by emigrations from towns and surrounding districts, (2) by the bubbling of specifically contaminated waters, (3) by direct intercourse with townsfolk. It is therefore important that a School...
he located away from a town. Such
his doubt was the intention of the founders
of some of our old public schools.
Eton was separated from the town of
Windsor by the river Thames; the growth
of the township of Eton being of a date
subsequent to the date of the foundation
of the College. At Winchester, the Cathedral
and Close intervened between the College
and the town. Harrow and Rugby
were more hamlets at the times the
Schools were founded. The sea side
should be preferred on account of the
Equitable temperature and the purity
of the air.

The site
The site should be of established healthiness
on a slight elevation, having nothing
to prevent free circulation of air all
around it; the ground should be free
from impurities, and from surface
moisture, the natural drainage being
different and available, never receiving
the drainage of higher grounds.
The soil should be dry, of sand or clods.
Moist soils predispose to rheumatism, catalepsy, and neuralgia. The best subsoil is a self-draining, gravelly soil. The worst is an undrained, wet clay. This forms the presence around of a ventral dry area. Wet clays keep the atmosphere other than damp, cold, and foggy, or a change of temperature. If the locality is on clay, the site should be carefully under-arched. Around the building by drain at least four feet deep. The requirement as to site are these: dryness, healthiness of surrounding, and facility of external movement of the atmosphere. The site being located in the country, there is no chance of the air being stagnated by heavy walls and lofty buildings, warehouses, manufactories, and the like. If the site must be in a town, it should be whenever practicable, at the outskirts where on one side at least air would blow on the building, or at least as near as possible to some object within the town. A few trees around the site are beneficial as they moderate the winds and afford shade.
Building.

The school buildings should consist of:

- Houses containing studies and dormitories
- Classrooms and laboratories
- Dining Hall, kitchens, and lobbies
- Swimming baths
- Gymnasium
- Chapel

Hospitals for ordinary cases.
Hospitals for infectious cases.
Laundries
Cottages for out-door servants
Public houses for clergymen and urinals,
Tennis courts and bowling courts.
Head Master's House.

The houses should be constructed so as to ensure perfect dryness of the foundations, walls, and roof. The arrangement of the buildings should preferably be arranged into lines rather than in a square. If in lines, the axis of the building should be if possible north and south so as to allow the sun's rays to fall on both sides. The building should...
In no case obstruct air and light from another, and each building must be at a sufficient distance from the adjoining house, and their distance should not be less than its own height, and if possible, more. If the buildings are in the form of a square, the angles should be left. Then, each house should contain studies and dormitories for thirty boys, a bath, common rooms, a water closet (for night use only), and rooms for a master. The studies should be arranged along a corridor; they should unite to contain two boys each, with the exception of one for the senior boy. There should be a single study for the entire place, and the space should be 900 cubic feet for each boy. There should be a fire place and a window in each study, and in addition, a fire at the bottom of the corridor to aid in heating and a free circulation of air. At least and here, the studies and dormitories are combined. This is a bad plan. More often such an arrangement leads to greater supervision from the masters.
and there is greater chance of vicious habits being acquired and passing undetected than in the publicity of classes in rooms, which acts often as an effective check on such offences. At the same time it should not recommend any large dormitories to dangers thus being. That, if an infectious disease is introduced into the school there is greater chance of its spreading among boys susceptible to its influence. The plan I would recommend would be dormitories containing not more than ten boys. Here then by means of warming the dormitories at the beginning of term, and in exceptionally severe weather, the cubic capacity of the dormitories should not fall below 750 cubic feet for each boy. The house should consist of two stories. The master's room should be situated in the middle of the house. In addition to the washing basins in the dormitories there should be lavatories where boys can wash before items and after daily. There should be tubbed with warm as well as cold...
water, and a bath room, where each boy
would get a warm bath at stated intervals.
In addition to this fire place in the study,
the temperature should be equalised by
means of hot water or steam. Where
the system of ventilation should be saturate,
it, dependent on the movement of the
outer air, and on inequalities of weight
of the external and internal air.
By means of open doors, and windows,
we can obtain at any moment any
amount of ventilation in a house that
whereas local alterations of the
kind are not possible in any artificial
system. The amount of air is limited by
the vicinity of not allowing
its movement. So it is too perilous itself. The best
arrangements for natural ventilation are:
1st. Short windows and a large end wind
2nd. Additional openings, to receive as fast
as possible a vertical movement of
the air from below upwards. For
the exit of foul air, channels in the
ridge should be provided, warmed by
in addition to chimney, and windrows.
for rendered insensible by restoration. Pro-
duces lassiness, headache, vertigo, and-
some cases nausea. Persons soon become
sick, and partially lose their appetite
and after a time decline in muscular
strength, and spirits. To make ventilation
tolerable and agreeable, the windows and
other apertures must be directly opposite
each other, of the same dimensions, to
admit and emit an equal volume.
again, through an equally free communication
with the external atmosphere. The objects
which are to be accomplished by ventilation
are as follows:—To remove from the
apartments all noxious gases produced
in combustion, over crowded restoration,
and to equalize temperature and humidity.
By ventilation, these must be removed entirely
at least diluted below an injurious
degree, the 960 cubic inches of carbonic
acid, and the two and a half ounces
of water vapour and animal matter
which are exhaled by each inmate evi
hour; this latter quantity is given off by the their
bodies, and becomes increased considerab
by the higher temperature which warm
of ventilation produces. In mild weather
there is no ventilation so efficient as the wind
left open a few inches at top and bottom,
especially the former, to allow the heated air
to escape. Bedrooms, at least during the day,
ought have the windows open. In very
cold and stormy weather, it is intended
to follow this advice about windows, unless
some adjustment be made to prevent
external cold from acting to freely on the
interior, and this can be accomplished by
double shutters or frames, with about six
inches of air intervening, which acts as a
conductor of the low temperature.
Strong draughts may be prevented from
terminating by having a louvered frame at
each, with acting the hinges, so that the amount
of their passages may be regulated. A strip
of fine cotton gauge, about nine or
twelve inches deep, fixed at the top of
the window frame, makes a good guide
the gauge firmly divides the current
of air, thereby preventing draughts
and excludes the sooner influence
a fireplace is a good ventilator, especially when the fire is burning, as then the fumes off several thousand cubic feet of air per hour. Means should be provided for securing vertical ventilation by means of the roof in seasons of contracted calms of the summer and autumn.

As to light — a subject of the greatest importance, but one often neglected in the construction of houses and schools. There should be no dark corners in any part of the house, every recess or angle not easily overlooked, being as injurious to health, discipline, and its ventilation. Each house should have a hurricane, bright, sunny, well-ventilated and ventilated from above. It is well known, says Priestley, that without light the plant cannot thrive, and if its do grow at all in the dark, it is always white, and is all too restricted in a dark and unhealthy state. Man in his most perfect type is to be found in the regions of the globe where the solar influences of light, heat, and chemical rays are nicely balanced. Under this
Strengthening heat of the tropics man cannot
endure without exercise. His highest powers. In the
darkness of the Polar regions the distinguished
characters of man almost disappear.
The pale, white, and infertile vitality of the
who live in obscure apartments, in prisons
and in houses in confinement and death. These
are well known. The brow, hair of these
who are exposed to the sun is more dark
to the light than the heat. Again, the
action of light tends to develop the different
parts of the body in that just proportion
which characterizes the type of the species.
As light thus develops the perfect type of
the adult who has grown under its influence.
The conclusion drawn by Dr. Edwards came
hardly be avoided, that the want of suffi-
cient light must constitute one of the externa
causes which produce those deviations in
form in children affected with strabismus. As
the more so, that this disease has been observed
to be most prevalent in poor children living
confined and dark streets. It is therefore
of the greatest importance, that light
should be freely admitted into the rooms.
it is essential to the development of the human race, physical and mental. And as light
less lends its aid to act in the cure of disease,
becomes a paramount duty to construct
our schools upon such principles, and in
such styles of architecture as will allow
the fullest and freest ingress.
Window blinds can always moderate the
light of a well lighted house, but the
room of a dark house is irredeemable.
Dark houses with northern aspects, it is
well known will furnish a larger amount
\textit{witness} than light and sunny rooms.
The windows should be properly placed
as not to throw shadows on the books
before boys. The lights should be
placed above or on the left hand side
the boys at night. The walls and ceilings
the houses should be made of non-absorbing
materials. The floors should be dark, and the
ceilings pure white polished cement. The
water should be sulphuric with water at
high pressure, laid on hot and cold
for the whole buildings. The water showers
translucent, without disturbed matters,
smell or taste, and be well aerated. The total solids should not exceed 8 grains per gallon of which only one should be attributed to benzole unless it be chalk water, in which case the total solids should not exceed 14 grains per gallon of calcium carbonate and should contain only traces of calcium sulfate. The matter destructible by heat, allowance being made for the decomposition of calcium carbonate, should be under one grain and should be nearly black, the indications of nitrites should be absent; if nitrites are free ammonia extremely slight, the amount of albuminoid ammonia should not be more than 0.8 milligrammes per litre. The water closets should be kept at the foot end of the dormitory, opposite the entrance, and in addition to ventilation, cut them entirely off from the dormitory by a separate and independent lobby. The following door should be attended to as the entrance of water closets, the basin towards the eastern corner, with a syphon or flush valve below. The hot water
must be of earthenware, strong and well joined. The amount and force of water shoule be sufficient to sweep everything out of the siphon. The siphon tube should be ventilated below the siphon by being carried up to the roof of the house. The junction of the siphon and siphon tube, and the length of the siphon tube should be perfect. There should be a special small cistern for the use of the closet. In all cases, a tube should arise from the top of the closet to the outer in the middle of water through the cistern. All cisterns in the houses should be made of good material, and built in other places, i.e., secured from contamination and capable of easy inspection and cleaning. They should be well covered, and interlaced as much as possible, from both air and light. Care must be taken that there is no chance of leakage of water into them. A common source of contamination is an overflow tube, falling direct into the cistern, so that the sewer pipes have an open being confined by the cover of the stern, are absorbed by the water spread.
This, the overflow tube is curved to as to retain a little water and form a trap, but this water often evaporates or the gases force their way through it; no overflow tube should therefore drop into a sewer, but should end above grate over a trebled grating. A cistern filling a water closet should not be used to supply cooking and drinking water, as the lines leading to the closet often conduct close up to the cistern. Cisterns should be frequently and carefully inspected and cleaned. 

Salt is the best material for making cisterns; they should be ventilated. 

In the school is to be situated near the sea, I would recommend that the sewage be discharged into the sea. The outlet pipe must be carried to low water, and if possible should be always under water. There should be a tide-flap opening outside the tide will fill the outlet sewer to the lowest high water, and this will make a definite compound of the mixed sea water and sewage. To remove this special attention is necessary. The sewers must be ventilated.
The sewers should be made of better bonding glazed or unglazed earthenware tubes; or of well-burnt impermeable brick, moulded in proper curved shape and set in Portland cement. They should be laid in as straight lines as possible, with a regular fall; tributary mains should not enter at right angles, but obliquely. The fall should be sufficient and without sudden changes of level. They should be flushed occasionally and accessible by manholes. The drain pipes should be made of well-burnt, hard, smooth, and glazed earthenware. The drains should run outside the house and as far as possible away from the house. Every house drain should fall outside and sit inside or between walls to meet the drain. At the junction of the house pipe and drain there should not only be a good water-tight, but a plan should be adopted for means of which there is complete ventilation and connection with the outside air at the point of junction. The rule, in fact, should be that the unions of any house pipe whatever with the outside drain should be broken both by water and...
ventilation. In addition to drain holes of any kind, should pass under a house, if they must be a tube leaving from front to back, or the reverse, it is much better to place it above the basement floor, than under it, and to have it exposed throughout its course to clean air. It is desirable to have drain pipes which can be opened at intervals by means of ledges or casks. Drain should be laid on concrete or on well-hewn clay. Pipes and traps should be easy of access and not covered so that they cannot be inspected.

Schoonroom, Classroom and Dining Room. These should be situated in as central situation as possible. They should be lofty, well lighted, and well ventilated and warmed by steam-heating pipes and gas-tubes. The minimum allowance of cubic space should be 50 cubic feet per head. The forms should be arranged so that the shadow of the body may fall to the right or to the left of listener. The kitchen and scullery should be heated by a Diving Hall. The cooking apparatus should be of good construction and equipped...
To afford a large amount of fuel, Place the cooking apparatus should be placed in the centre of the kitchen, instead of against the wall. The boilers should be surrounded with safety values. The sculleries should be surrounded with hot and cold water, and kept very clean.

There should be a large swimming bath.

As the effect of bathing in hot water is very much superior to fresh water bathing, the bath should be filled with hot water. The bath should be three feet deep, at one end and gradually become deeper until at the other end, it should be seven or eight feet deep; its floor should be lined with white glazed tiles. There should be a swimming master always in the bath house during the time swimming is going on. The water must be warmed during the winter. Swimming should be considered an essential part of the boy's education. Those who have begun swimming young, and have been taught regularly and systematically, will almost always, without those who have acquired it by themselves. Every facility
There should exist for acquiring the art of swimming, as it is to truly learn to swim, an important and enjoyable task. There should be little or no excuse for anyone being unable to accomplish it.

Girls as well as boys ought to learn to swim. Happily it is no longer considered necessary for a girl to learn to swim, skate, and play at lawn tennis, etc. and the gain in health of physique is great. The feeling of the mind in the requirement of accomplishment which a girl might have no real taste for confinement in overcrowded and heated schoolrooms, and the absence of any exercise beyond that which arose in walking two and two the body, have given place to other and more beneficial occupations. We hear less now than ever of boils, fever of weak veins, hysterical pain, and the like, which the very imperfect training then in boys had barreled from their entering a cold sea bath, a sensation of distension in the first experience of great or little according to the coldness of the water. The system of
becoming exposed to brisk and resist the
refreshing effect of cold, in a few seconds
a sensation of general exhilaration ensues.
the breathing becomes full and easy, the pulse
better quible and strong, the features are flushed,
and the latter feels increased vigour. If he now
enters the bath, so before the period of exhilaration
passes, this languid condition endures more
for the rest of the day. On the other hand,
if the bath is prolonged, depression again
commences. Bathing increases the appetite,
regulation and the assimilation of food. As a
rule a boy should not stay in the bath longer
than ten minutes, but in the case of a strong
summer, the stay may be considerably
increased. There should be no bathing before
breakfast, and not for an hour, and a
half to two hours after meals. Better, throw
the water at once, and not
and hesitate to till they become cold
and shivering. The following instructions,
given by the Royal Humane Society cannot
be too widely circulated:— Avoid bathing
within two hours after a meal, or
then exhausted by fatigue or from
Any other cause, as when the body is in cooling after intoxication, and avoiding bathing altogether in the open air, if after having been a short time in the water, there is absence of chilliness, with remission of the bands and feet, but better when the body is warm, provided no time is lost in getting into the water. Avoid chilling the body through sitting or standing undressed in the chapel after having been in the water, or remaining too long in the water. Leave the water immediately there is the slightest proof of chilliness. The vigorous and strong body is the early in the morning or on an empty stomach, but the young and those who are weak had better bathe two or three hours after a meal. Those who are subject to attacks of giddiness or faintness and those who suffer from palpitation or other sense of discomfort at the heart should not bathe without consulting their Medical adviser. The bathing house should be provided with dressing rooms, water closets and were as like the bath attendant, and turning ar
Masters must be acquainted with the methods for performing artificial respiration and restoring persons in case of drowning. They should know the tables of weights and measures. On this subject, a boy after being thrown into the water thoroughly dry and taking several times to dry the hair and ears.

The Gymnastic...
followed is change of work, and sufficient rest. The Gymnasium should be furnished with: 1. Pole for
leaping. 2. Horizontal beam. 3. Vaulting horse. 4.
Vaulting beam. 5. Parallel bars. 6. Pair of rings. 7.
10. Bridge ladder. There should be a plentiful supply
of mats and saw dust on the floor. The building
should be lofty, well ventilated and well lighted.
The school chapel should be situated in a con-
venient position and provided with means
for warming in cold weather.

Hospitals

There should be a hospital for ordinary cases
and another devoted entirely for the reception
of infectious cases. The latter should be at a
considerable distance from the other
buildings, and have arrangements for disinfecting clothes, bedding &c. But
in some schools there is only one hospital for all
cases, and in my opinion, is a mistake. In
the establishment of hospitals, is a necessity,
but it must be remembered that there are
some danger in bringing together infectious
area, many sick persons, a great deal of
air, by immediately diluting and rapidly
Carrying away the exhaled substances evolved by the excretions from the bodies and secretions of the sick, reduces the danger to its minimum, and possibly removes it altogether. But the supply of air must be enormous: 400 cubic feet for each sick person is not an excessive amount for acute and febrile diseases.

The causes of the greater contaminations of the air of hospitals are: more organic effluvia are given off from the bodies and secretions of sick people. The management of the sick necessarily often exposes to the air secretions, abrading, foul penitaries, soiled clothes, etc.

Walls and floors of hospitals, more or less absorb organic matter. Therefore in the construction of hospitals it must be remembered that an unlimited supply of air is of the first importance.

Air is not only of the greatest use as a purifying agent, but it has great curative qualities. The hospital should contain wards, day-rooms, dispensary, consulting-room, bath-room, lavatories, water closets, kitchen, scullery, store-rooms, nurses' rooms,
and rooms for servants. The medical officers' quarters should be attached to the hospital for ordinary cases. There should be a well near the sick ward of a wash house and a baking and fumigating room.

The site of the hospital should be carefully selected; it should be dry, healthy, and well-drained. There should be every facility for the movement of air through it. The best subsoil is a self-draining, gravelly soil. The site should never be low or damp.

The building must be planned in such a manner that the external air shall have free play round each block, and that the air other than the freshest external air shall enter each separate ward. The hospital should be constructed on the pavilion plan. The adoption of this principle requires that there should be at least two distinct division in the plan, one exclusively for the sick, the other for administration, cooking, etc. There should as a means of communication between the different blocks, and this should be effected in such a manner that the air ventilation for different blocks shall be complete. The hospital should have the
In character, the pavilions should be separated from each other by a limit of number of patients, to be under one roof. The hospital pavilions should be allotted the highest and best portion of the site. It is advisable to arrange the hospital pavilions so that the light may fall on both sides. The wards should have windows along opposite sides and one end window. There should be a bed in each corner and two beds between each two windows. The water closets, ward basins, baths, lavatories, bathtubs, and urinals are to be placed in two projections at the outer of the wards, having special ventilating arrangements, thus insuring from whatever direction the wind blows, no effluvia can enter the wards. The superficial area should be from 90 to 100 square feet per bed; the height of the ward should be limited to 14 feet. These dimensions would give from 1200 to 1400 cubic feet per bed. The extent of windows should be sufficient to light all parts of the ward equally. The windows should all open at the top and bottom. In some instances, windows that will open partially or entirely in transverse sections,
The advantages. Adjoining beds should not be closer to each other along each wall than three feet. The internal finishing of the rooms should be as plain as possible. The walls should be lined with cement. The floors should be made of rock. Every corner should be taken about. The staircases, all their communications, should be outside the walls, and they should be filled with tiles and ventilation. The ventilation, that is natural, as ventilators can be built into a more healthy condition by natural means than by artificial contrivances. The essential sinewicible of natural ventilation is the use of open windows. The only drawback to this method is cold and exposed air. Temperature outside. To counteract this and to provide for a certain amount of ventilation, independent of weather and in cold weather, air may be warmed by passing over terra-cotta surfaces warmed by fuegrates. Again, terracottam's heat is transmitted with its heat and airshafts may be used by tobein system. The best plan for warming wards is by
placing five grates down the centre line of the ward. The smoke-flue should be carried under the floor in a casing to the outer wall where it thrusts join external shafts, and from which air is admitted into the casing and thence through the fire-clay cells behind at the side of the fire inlet, this ward. For smaller wards the ordinary room, ventilating five grate acts well. Now as to lighting, gas lights emit a large quantity of air, and in order to allow a few cases. If sufficient air to exist in the wards as possible, it is necessary that the gas lights in the wards be kept separate from the air in the wards.

To effect this they turned to be placed in glass globes as constructed as to enable perfect, required for the clue consumption of the gas to be brought in direct to the globes from the outer air, and for the furnace from the gas to be carried away semicircle directly into the outer air. The pavilion house of consist of two floors, there should be nothing between the pavilion, but a low corridor for shelter. The Hospital nurses should consist of wards with their nurses.
rooms and cellars at one end and water closets and baths at the other end. This part of the hospital should commence with administrative offices by means of a corridor. The furniture in the wards should be reduced to a minimum, and as far as possible, everything should be of wood. The bedding should be also reduced in size as much as it can be. Thick, mattresses should be discarded, and thin mattresses made soft and comfortable by being placed over springs employed. The mattresses for mattresses should be horse hair or close fibre. Blankets and counterets should be white or yellow, in colour, and thoroughly frequently, thoroughly aired, fumigated and washed. The removal of excreta must be by water. The strictest rules should be laid down with regard to the immediate removal from the wards of all excreta. Dirty ovens, foot linens etc. Hot and cold water must be supplied everywhere. The supply for all purposes should be from 40 to 50 gallons per head daily.
well ventilated and lighted and thoroughly heated. The kitchen, surgery, consulting
rooms should be situated in a block, connected to the hospital buildings, and furnished
and equipped to the requirements of the hospital. The medical staff should
live in a block, attached to the hospital, for ordinary cases, and a nurse and a servant
must reside in the hospital. A nurse will be required to live in the hospital for infected
cases, and in case there are numerous infectious foci, other nurses can be got
from the neighbouring towns. The dispensary
must be well supplied with drugs, and
all medicines will have to be made
there — the school being in the country.

The size of the hospitals must be based
upon the demand, that are likely to be
encountered upon them. That is to say they
must be proportionate to the size of the school.
A school containing 300 boys would
require 15 beds in the ordinary hospital,
and at least 30 beds in the hospital for
infectious cases. The nurses (hospital)
should either be tented away or a distance
to be washed, or a curtain hung, the nurse for their nurses, near the hospital.
If a boy is seriously or dangerously ill, and his parents come to the hospital to see him, they may be allowed to visit the hospital during the day, and from some time to see them. But on no account should they be permitted to live in the hospital during their stay, or undertake the duties of nursing. The appearance of a hospital is so different to their home, that they cannot believe it is comfortable, the bare walls, floor, bedstead, and old, rough, contrast so forcibly with the accustomed carpets, curtains, and feather beds, that they are apt to declare the place cold and forbidding. Forgetting that the carpets, curtains, etc., are ready to held the parents of the deceased. A visit is paid in talking with the boy, and during residence in the hospital their time is generally contrasting unfavourably the necessary services of this hospital with their well furnished homes. An amateur nursing in my experience is unfa-
Satisfactory to both Patients and Medical Attendants, and generally results in any
influence in increasing the work of the
Home Nurse, and tends to abort its regular
performance of the work of the Institution.
If there is a little care, they should reside
there, if not, they must stay with the Head
Mistress. There must be printed forms to be
signed when a boy is admitted to or discharged
from the hospital. They must be signed
in the first place by the Medical Officer,
and then by the Head Master, House
Master and Matron. It is necessary the
Masters should know where the boy is, and
the Matron is responsible for his not being
found when he comes back to the Asylum.

Laundry:
Every School should have a Laundry in its
Premises, for there can be little doubt
that infectious diseases have been frequently
introduced by means of the clothes washed
by a woman. If the same woman, and brought
back to the School after exposure to some
source of infection or contagious illness in the
motherwoman's own family or in the clothes
of some of her other customers. All the washing of the institutions should be done in their own laundry except the clothes from the pence, besides, those should be washed in the special laundry attached to that building. In many schools all the clothes except those belonging to the masters are washed in the school laundry, but the masters have to send their clothes into the town, and there they become exposed to infection.

A few cottages for out door servants should be built a short distance from the school. All the out door servants should live here, not as in some schools, servants with their families living in houses placed between the school buildings. This is of importance, because, their children must go to some school, and if, there is infectious disease in this school, it is more likely to be introduced into the big school, if they live in houses situated among the school buildings than if, they reside at some distance away. The indoor servants must live in two separate houses, one for men, the other for women.
The water closets in this house should only be
for night use. For day use there should
be water closets in each house. The closets
should be made on the best principles, and
well ventilated. Each closet should be in
the same compartment with a door. In
a row of closets without ventilators. The water
should be well constructed and held well
flushed with water. The removal of excreta
should be by water, as it is the cleanest, the
readiest, the quickest, and most satisfac-
tory. If there is a good supply of water,
soak sewers, a broken outfall, and means
of disposing of sewer water.

These closets should be built as they afford
opportunities for healthy exercise for
a large number of boys at one time,
and if they are covered can be used
in wet weather. A baseball court is
a very good addition to a school, but is
very extensive, and does not give
amusement to many boys at one
time. The Head Infants' House, being
situated near the school building,
so that boys shall not have far to
Go when they have to pay visits to the Head Master.

The Medical Staff of the School would consist of:
3. A Resident Medical Officer.
4. A Dentist.
5. Two Nurses.

The consulting physician and surgeon should be chosen of at least county reputation. They should be paid by fees when called by the Resident Medical Officer to hold a consultation on a case.

The dentist should be paid by fees and should visit the school every month or oftener if the Resident Medical Officer tends, for him there should be two trained nurses; one for the hospital for ordinary cases, the other for the hospital for infectious cases. In case of more nurses being required in an outbreak of scarlet fever, additional ones can easily be got.
from the County Hospital.

The President-Medical Officer should be a

prominently qualified medical man, residing

in a house attached to the hospital,

for ordinary cases, and should be paid

by salary. He should have at least one

meal a day with the boys in the dining

hall. He should give as much of his

time to the School, but I would allow

him to enter into a limited private

practice. He must not attend on

infectious diseases, and should not

become the Medical Officer to a Club

at times the work in a School for the

Medical Officer is not great, and the

experience gained by private practice

will be beneficial to the School and give

the boys some additional remuneration

and healthy exercise in walking about
to see his patients. The President-Medical Officer

should not only attend on the boys when ill, but advise on all

matters connected with sanitary management. He will

not be called upon to give opinions on the suffering and means of

relief, or the quantity and quality of water supply, on the

efficiency or otherwise of dietary, or the quality, purity, or standard.
of food and beverages, on the amount of work to be demanded from boys, on the amount and character of their clothing, on the sani-
tization of the school and in anticipation of epidemics, etc. The headmaster
constantly revises the school arrangements, and makes himself
acquainted with the habits and constitutions of the boys.
When a boy enters the school for the first time, his parents
shall be required to furnish correct information whether he has
ever had any contagious, or infectious diseases, and if so of
what nature, and the date when they occurred, and whether there
is any hereditary or constitutional cause which ought to be noticed.
The boy shall then be carefully examined by the Resident-
Medical Officer, and his name, age, weight, height, and
width around the chest entered, together with the foregoing
particulars, in a register. From time to time the boy should
be seen by the Resident-Medical Officer, and any increase
in height, weight, and girth recorded. In case the
boy has an illness, its particulars, should be noted in
the register, in addition to the record of the
case in the day-book. A certificate stating the
condition of the boy's health during the past term
should be sent to his parents, who shall be
obliged to furnish another on the
boy's return, stating if the boy has
been ill, or not during the vacation,
and if so, it should be countersigned.
In this family atten dance, certifying the
nature of the disease.

Whenever a boy is admitted to the school he
should bring with him a medical certificate
that he has had no infectious disorder
sufficiently recent to date to incur any
risk of contagion, either from himself or
his clothing; and that he has not been exposed
to infection, so that he may be safely admitted
to the school. If a boy has an infectious illness
during the holiday, his parents should
inform the medical officer. Instruct the
infectious in this effect. Those
sent to each parent, become in my experience
medical men sometimes give certificates
about boys being free from infection
in a somewhat careless manner.

When the medical officer has been informed
that a boy is ill with an infectious
disease, he should at once send instruction
that he must be confined such that the
boy can be admitted to the school.

The patient, when well enough, should
be removed from the house
where the infection is, because,
when he has recovered from the illness himself he might bring his pieces from some of his brothers or sisters, suffering there are other cases in the house. His clothing and all articles that are to come to the school must be disinfected. He must have a warm bath, with carbolic soap, before coming to school. The length of time he must remain away from school depends on the disease. In typhus, typhoid, smallpox, measles and mumps, infections do not continue long after the typical morbid process of each disease is completed. Three weeks from the height of the eruptions in these diseases suffices for the cessation of personal infection, allowance being made for delay from complications. Care must be taken that no ephec remnant of a morbid action already over, clinging to these or other articles of clothing, should convey a disease from which the convalescent suffers. Exception may be made to the third period assigned for the termination of infection in these diseases, but in practice I have found it sufficient.
In the case of scarlet fever, arthritis, and bronchitis-cough, six weeks must be allowed. The six weeks must be reckoned from the height of the disease. In scarlet fever a longer interval may be allowed, but I have found six weeks sufficient. Allowance of course must be made for complications. Inhaling infectious illness has appeared in a family during the holidays, but the schoolboy has not taken the complaint, he must be removed from the source of infection at once. The length of time he must be away before he can return to school varies with the disease. In scarlet fever one week is sufficient. It is a point of the greatest practical importance that on removing the healthy from a source of scarlet fever four weeks will suffice to determine the infection. Yet boys have been kept from the school of three weeks because they have visited at a house where scarlet fever broke out after they have left. From
Achlethria is somewhat longer separations, in yellow than is required for small pox, fever, eight days is generally enough. In small pox, measles, and scarlet fever, fourteen days is generally long enough. The incubation period of influenza is sometimes longer, in some cases, extending to three weeks. Pneumonia has an incubation period closely corresponding to, but generally in excess of, that for measles. Ten days is insufficient for whooping cough. Return of healthy hair is the best proof that a recognition of the best is cured. When the boy returns to school, they should be examined by the Medical Officers, as he may detect some disease that has been overlooked at home.

The dietary of the school should be under the supervision of the Resident Medical Officers. The chief faults of school dietary are want of variety. Variety of vegetables and indifferent cooking variety must be introduced into the food, and different substances of
the same class must be alternately employed. Strenuous exercise, and with
variety, during food is taken, and a large
amount of nutrition is introduced.

The diet should be plain, wholesome,
substantial, nourishing and invigorating.
A very good plan is to give the boys hot
milk, coffee, or cocoa with a biscuit
when they first rise in the morning, before
they go to school. This is a firm breakfast
and in the winter months is a good
stimulant before going into the breezy
and cold school rooms, and the more
substantial meal (ordinary breakfast)
will better digest itself if this preliminary
"nacht" has been preceded by this preliminary
fast. There should be meal twice
a day; at dinner and breakfast.

The meals should be strong in December
in addition to the morning hot milk or
cocoa

Breakfast — Tea, bread and butter and meal
or porridge.

Dinner, served at a substantial Monday
Meat, 1st Course Meat, first
Ocasionally, vegetables and in cool weather fruit.

2nd course. Fruit-pies, rice pudding,
    plum pudding &c.

As a rule, he allowed bread, beer,
at dinner, but I would recommend water for the majority, milk for a
few, and good bottled beer for those that require beer.

Yes. Bread and butter and tea —
    the butter should be good fresh
    butter, not the wretched article
    that is generally distributed to
    school boys.

Lunch — bread and cheese.
The time allowed for meals through
    the day are: morning, two and a
    half an hour for breakfast, and the
    same for tea; dinner, three and a
    forty minutes.

Dinner should be a confectioner's
    made attached to the school, and under the
    supervision of the President Medical
    Officer, where the boys can spend
    their pocket-money. It should
    be part of the duties of the Medical
effort to visit this work frequently, and examine the goods to see that they are of proper quality and that nothing is sold likely to be injurious. All profits arising from the work should be devoted to the expenses of the playground and games.

The number of school hours, and the amount of work in a school should be under medical supervision. To hit off the happy medium between over and under work is no easy task even to those who have the necessary knowledge, on the one hand, and the liberty to arrange their own scheme of occupations, on the other. The one hour who is injured by doing too much, believe that many be found who are sustaining serious damage from not having enough intellectual stimulants. This is true of people in general, but does not hold in the case of schoolboys under the present system of education. So long as a boy can eat well, sleep well and is surrounded by satisfactory hygiene conditions, and has ample leisure...
for recreation, active sports, and frequent holidays, he can do a large amount of work.

The general scheme of work hours would be:

1st School from 7 A.M. to 9 A.M.
2nd School from 9:30 A.M. to 12:30 P.M.
3rd School from 4:30 P.M. to 6 P.M.
4th School from 7 P.M. to 9:45 P.M.

This is for senior boys; no boy under fourteen should be allowed to do any work after 9:30 P.M. I would not allow any boy to sit up till 11 P.M. in his study or dormitory; all work should be finished by 9:45 P.M. The junior boys should go to bed at 8:30 P.M. The senior boys, at 9:45 P.M. In the case of a delicate boy, the medical officer must be allowed to make special rules for the quantity of work to be done according to the requirements of the case. There should be a rule that every boy who is not in school must be in the hospital, or have leave to be elsewhere, so that all boys who complain of the most trivial ailments shall be at once seen by the medical officer.
and prompt. Means can be thus taken for treatment, and isolation, in case of infectious disease manifesting itself. No boy should be allowed to miss a single school hour without having leave from the medical officer when the excuse assigned for desiring to miss school is ill health. The medical officer should visit the schools, classrooms, and studies frequently to ascertain that they are properly warmed, in the winter. The temperature should be at daily duty. The temperature should be not below 60 or above 60. In case a boy is found unfit for school life, the doctor should inform the head master, and the boy should be sent away for a term or two until his health allows him to return. Many delicate boys suffer during the winter and spring months; in these cases they should be allowed to keep the summer and autumn terms only. This, while causing no real loss of time, promotes the general health, and permits the boy, who otherwise might have suffered...
Down altogether, to go successfully through his school career.

The games and athletics must be under medical supervision. I would recommend the plan of having compulsory games at least three times a week. Some boys will not join in games unless there is compulsion. Permanent leaves off compulsory games should be given except by the doctor, for medical reasons. The Medical Register will be of great use in connexion with this task of the medical officers, and the doctor, living among the boys and brought into daily and hourly contact with them, can, in most cases decide at once as to whether a boy is fit for this or that game, but in case of doubt, he has only to refer to the register, where he will find the whole medical history of the boy.

The Captains of the different clubs must submit their lists of names to the doctor, who should see that the boys in each club are as near as possible of the same size and

Strength. The weak and the strong should not be allowed to engage in the same sports. Football (even the Rugby game) is as safe as any other athletic pursuit, provided the boys are of the same size, and sound and healthy. If a boy is visibly liable to any dangerous tendency, he must be prohibited from football or laboring chores, for in such a case the effect may even be a slight headache or wound, which might become necrosis of a bone or disease of the spine. Boys suffering from heart disease must not be allowed to join in football, laboring chores etc. The Medical Officer turned not discourage any healthy sports, but should insist in every case the physical exercise, though be adapted to the age, strength and habits of the boy. The playground should be large, well drained and have a few trees at the borders. The turf should be level and well rolled. Many accidents were produced at Cricket and football mostly rough, uneven ground. Around the Cricket ground some seats varied.
be placed so that there may be no excuse for boys lying on the ground when watching a match. I would strongly recommend a small, covered playground for use in the winter months.

Paper chases are very popular with school boys, but as they are very tiring, strains on them, the following rules should be adopted in connection with these games:

1. No player shall start or continue either to the whole school or any part of it.

2. No boy may run in a paper chase without having first obtained the doctor's leave.

3. The leaves of the head master and doctor must be obtained before a paper chase is announced.

On such days there should be no compulsory games. All boys must have at least one pair of flannel trousers and a jersey to wear during games. A good jersey should have a staphor collar to protect the throat from cold. Light jerseys are made so as to expose the hands.
and under heart of the chest, so that the
influence is a great check to itself, unless
of late time, he has to stand doing nothing (keeping
up itself), runs a great risk of catching cold
in their heart. The shorter kind and amount
of bodily exercise is so variable with the
circumstances of each. That general rules
are with difficulty laid down, but the
following are prejudicial: 1. during
ordinary health, some part of each day
should be spent out of doors, even in
weather apparently unsuitable, for
Clothing subsidies a means of obviating
all effects. 2. It should be as active and
general as possible, and carried to the
point of slight fatigue. 3. The morning
is the best time for exercise. Morning
is a good way of taking exercise; there is
no way in which an individual can ac-
complish so much by his muscles
activity, rowing. During exercise the
action of the lungs must be perfectly
free, not the least impediment must be
thence to the free play of the chest. The
breath should be变革ed in reference to
This fact. Many boys, even very light-
collars. In commencing an unaccustomed ex-
ercise, the heart must be closely watched,
excising activity, irregularity, and then
irregularity, with short rests. That rest,
and then more gradual exercise, is necessary
in order that the heart may be accustoming
to the work. During exertion there is little
change of chills under almost any cir-
cumstances, but when exertion is over
there is the great danger of precautions
are not taken. When a boy is exerting himself
he may be thinly clothed, but immediately
afterwards or in the intervals of exertion
he should be covered sufficiently well to
prevent the least feeling of coolness of
the body. Flannel is best for this purpose.
A boy's idea of training consists of eating
as little as possible, and of exerting
himself to the utmost at all occasions.
The right plan is to eat the least possible
and gradually to increase the amount
of exertion.
The medical officer should see that all
boys of strength are in good condition.
order, and during the summer if they require flushing, he should see that it is efficiently done. In case of an infectious disease appearing in the school, the patient must be at once removed through the hospital for infection, cases and isolated from the rest of the school.

His companions in the study and dormitory must be at once thoroughly disinfected. His clothes must be disinfected, and his bedding should be sent with him to the hospital.

His companions in the study and dormitory must be carefully watched so as to bring them under treatment, if necessary, at the earliest moment. Every means must be taken in the hospital to prevent infection, and to destroy the poison emanating from the sick. The following instructions must be carried out:

1. There must be no carpets or curtains in the wards.
2. The floors must be sprinkled with a solution of carbolic acid or carbonate of lime.
3. A basin containing chloride or
Carbolic acid, or some other convenient disinfectant must be kept constantly on the bed for the patient to put into, and which must be stirred and replaced at regular intervals.

4. A large vessel (a tub) containing water, impregnated with Lundy's fluid or carbolic acid solution should always stand near the room for the reception of all linen or its removal from the person or contact with the patient.

5. In place of using soiled handkerchiefs, use small pieces of rag for wiping the mouth and nose so that each piece after being used, may be at once burned.

6. Two basins, one containing Lundy's fluid or carbolic solution, and another containing plain soft water, and a good supply of towels, must always be ready and convenient so that the hands of the medical attendant, and nurses may be at once washed after they have been soiled by specific secreted. The dress of nurses should be of linen or smooth washable material.
Glasses, cups, and other vessels used by or about the patients are to be scrupulously cleaned before being used by others.

The discharges from the bowels and kidneys are to be received on clean linen or from the body into vessels charged with disinfectants. In some cases the body must be anointed twice a day with olive oil slightly impregnated with carbolic acid.

9. The wards should be purified, after containing infectious cases, by thoroughly cleaning all woodwork, with soft soap and water, to which a little carbolic acid has been added, by removing and washing all fabrics, and by fumigating for three hours with either the fumes of sulphur or nitrous acids.

The walls should be washed and then washed with hot lime to which carbolic acid is added. Finally, the windows should be held open for 24 to 48 hours.

10. Clothes and bedding should be disinfected by means of boiling, soaking, fumigating, and exposing them to the sun and wind out of doors. When there is an outbreak of infectious
illness, the medical officers should enforce the breaking up of the school because:

1. It is impossible to say how many boys may have the disease incubating, and a journey through a long line of a herd elaboration for an illness.

2. By returning home the boys are liable to take the complaint to their families and thus infect fresh centres.

3. In a well regulated school hospital there is much greater chance of treating illness successfully than in the majority of homes.

Whereas a boy is put on the "black list" disease should at once be sent to his parents informing them of the fact and taking the nature of his complaint. If the illness is of a herculean nature a report should be sent every day.

The nature of the cases coming under the medical officers of a school are very much the same as a medical man dealing with in a general practice.
President, Medical Officer, are numerous, among others, the following are conspicuous:
1. He is close at hand in case of an accident.
2. He can visit his patients at all hours.
3. Illness at night can be immediately attended to.
4. From being so familiar with the boys, they are not afraid to come to him.
5. He is in a good position to detect malinger from his intimate association with the boys.
6. All cases, however, apparently trivial, come under his notice at once.
7. All excuses, from work, or games, on the plea of ill health can be examined into by him.
8. From his knowledge of the histories and constitutions of the boys, he is in a good position to treat them successfully.
9. From not attending on infectious cases, there is no chance of this introducing their complaint to the school.
10. He is in a position to supervise all the boys, work, etc., always being close at hand as if he only cares for the health of the boys and their conduct, interns, and when required.
to attend on illness.

11. It was denied not only as doctor in the
ordinary acquaintance of the word, but
as the Medical Office of Health.

The President—Medical Officer's salary should
be made up by each boy by paying a fixed fee
(1/6) a term whether ill or not. This is
a satisfactory arrangement for a Parent
becoming a long illness of a son does not
make a long bill for a Father.

Of the ordinary ailments at a school
Chilblains are the most frequent. This
is due no doubt to the fact that in many
schools the extremities of the boys are exposed
throughout the day, a predisposition is
This affection often prevails in certain families
it exists most-frequently in the young. The
tendency to Chilblains is often connected with feebleness of the general cir-

The exciting causes are:

1. Cold.

2. Warming a hand when thoroughly chilled
down by previous cold.

3. East Winds.
There are three kinds of chilblains:
1st. Where there is simple congestion, attended by itching.
2nd. Where ulceration occurs.
3rd. Where death of the subjacent tissue or areolar tissue takes place — known as chilblain.
Chilblain generally attacks on those parts of the body where the circulation is most liable to be affected by changes in the internal temperature. In the same boys, however, the part of the body affected by every winter is little liable to vary. Some suffer in the hands alone; others for the feet only; while others may be affected on both hands and feet, or again, the latter, if the case may be, the feet and chilblains, or even the end of the nose. The most efficient local causes are tight shoes, elastic garters, tight gloves, and cutting long in cold rooms. Treatment. The most efficient general measures are such as promote a vigorous state of the general circulation: good diet, additional under clothing, exercise, hygiene, and their antiseptic.
be maintained by warm and cozy coverings. Total remission: barren stump.

Embeddings, tulle, tulle's, accost, Camphorated

Vivit, a mixture of two parts of turpentine of camphor, with six of warm lanolin.

Tincture of rosin and soft lanolin.

When the external surface is very tender, a good local application is formed by a mixture of two ounces of cologne, six drachms of benzene turpentine, and three drachms of castor oil. Some children may be consoled over by adhering plaster, dressed on kid or Chascomus leathers.

Beneath chilblains, should be protected by a coating of cologne, and castor oil. Hot broths, chilblains, though is immersed with turpentine, rose oil, or Peru balsam.

The medical officer must be on the look out for “self abuse” among the boys. The tendency for contracting this habit is strongest about the age of puberty, but frequently this practice is commenced before this at an early age through the age of ten or eleven. Much trouble and anxiety will
In cases of minor offenses, indecent conduct, and bullying, it is best to refer the pupil for advice to the school's medical officer.

The administration of caning ought only to be resorted to in cases of minor offenses, indecent conduct, and bullying. It ought never to be inflicted for default or school work at all except, not without it is certain the idleness is not due to natural stupidity or ill-health. Even when unwillingness to learn is the result of obstinacy, caning is not the best remedy. Modern experience in the treatment of the insane shows that the most stubborn and refractory patient will yield at last to kind and judicious management, without recourse to terrors or violence. If a boy is really and determinedly vicious, he ought to be removed from the school, as in effect of all punishment that has ever been devised, nothing will check his evil influence over his companions.
A vicious boy is, however, a somewhat rare occurrence, and such a case is usually allied to disease. Such a boy ought to be placed under special care and training. He must be allowed to be agreeable to him, to lead his head with his hands, and very serious and even fatal results have followed this punishment. No boy should be cared for without the sanction of the medical officer, as there may be temporary or permanent medical reasons that render him an unsuitable subject for this form of punishment.

The plan of carrying a boy across the back is in my opinion objectionable - the gluteal region is the taper. Punishment itself is a good form of punishment. It has the advantage of invoking in the boy in the open air and affording exercise. Punishment itself to be of great devastation by boys. It should not be playing at soldiers, but good steady instruction drill. On the Continent boys are punished by solitary confinement. This is an objectionable system. There is no form of punishment
able to attended with such bad results, unless care be taken that the mind is fully occupied during the occupation. Corporal punishment, though inflicted by an inexperienced teacher—probably the school sergeant—tends to throw, and unexperienced teachers, often cause serious damage, by training in a weak unsteady manner. The head, eyes, and ears are often in great danger. The medical officer should decide in each case the maximum amount of punishment that may be given.

The medical supervision in the majority of the large schools is not to compete as one would be desired. The defects may be found in one or more of the following reasons:

1. Many of these schools consist of old, unsuitable, building, built one and in some cases two hundred years ago. And though much energy and ingenuity has been displayed in undermining the sanitary conditions nothing really satisfactory will ever be accomplished till they are entirely rebuilt.
2. The school is often located in a town and sometimes in a crowded part of it.

3. An unsatisfactory site—low and damp.

4. The drains are insufficient and not suitably treated and ventilated.

5. The water supply is not good.

6. There is little or no medical supervision of work, games, diet or punishments.

7. The means taken to prevent the introduction of infectious diseases are insufficient.

8. Hospital accommodation is defective. In some schools there is no hospital at all, and in others all diseases are treated in one house.

9. There is no resident medical officer. For the convenience of both boys and doctors, certain hours should be fixed at which the latter will always be in attendance at the hospital. The following times would be expedient:

9 a.m.

2 p.m.

8 p.m.

Of course, if necessary, the doctor can be
Keen at any moment. During football matches the boys should remain at or near the hills or to act as close at hand in case of an accident. Before the boys come back from the location, the boys should instead - the cisterns, jugs, buckets (since they are invariably across), water closets, drains, urinals, and in fact the whole top of the arrangements for the health and comfort of the boys are in satisfactory condition, and he should repeat these instructions at least once a week during the term.

In conclusion, we may expect in a week under proper and sufficient medical supervision to produce the following desirable results:

1. Strong, healthy boys, and a natural result - boys for the best condition to benefit by the instructions, they receive from their masters.

2. Great freedom from infectious complaints.

3. Entire absence of endemic disease.

4. Early detection of sickness and...