rheumatic form, where it would be expected to do the most good, I have found it in every way inferior to salicylate of soda. Small repeated doses of calomel, carried to mild purgation, are beneficial at the beginning of almost all cases. The main indication for treatment, after the relief of suffering, is supportive, from the beginning, to counteract the extreme prostration which sets in almost immediately with the attack. Tonic doses of quinin, iron and strychnia meet this indication better than anything else in a majority of cases. Another favorite prescription which I use in almost every case in adults is a little "No. 3" capsule containing

Quinin gr. i
Cinchonidia gr. i
Pyrophosphate of iron..... gr. ii
Strychnia sulph..... gr. 1/40

One of these is given four times a day, or every four hours as indicated. Some cases require special nerve and cardiac tonics. A useful prescription in heart weakness is

Tr. strophanthus.....gtt. iii
Tr. cactus grandiflorus.....gtt. xii

Give three to six times in twenty-four hours. In children, with whom bronchitis is usually the leading feature, muriate of ammonia with ipecac in syrup of tolu is a most valuable remedy. Opiates are not often indicated in influenza, excepting morphia with atropia hypodermically to relieve obstinate neuralgic pains; and Dover's powder in some cases of painful cough. The pharmacopeia is very rich in general and special tonics, and may be drawn upon to meet the requirements of the various conditions, or suit the fancy of the prescriber. Bark, iron, strychnia, arsenic and phosphorus represent about all the virtue of this class of restoratives.

PHYSICAL STANDARDS OF NATIONAL GUARDSMEN.*

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The object of this paper is to elicit discussion and lead up to uniformity of action in all the states. That I may conserve your time, I shall be brief, and beg that my brevity may not be mistaken for dogmatism.

Political history demonstrates that every nation has frequent crises in its affairs when the show of armed force is necessary. Ability to rapidly mobilize a formidable fighting force makes for peace. Industrially and commercially that country is the strongest which can spare the largest per cent. of its men to civil employments. The policy of territorial expansion beyond seas, by whatever form of government adopted, has always required a larger military establishment than would have been required had the same territory been contiguous to the mother land.

This country must then in its present situation be either equipped with a large standing army or cultivate within its industrial class those qualities of mind and body which best prepare for service under arms. The military surgeon has a duty to perform in enlightening the public as to the exact physical qualifications for service in the regular army, and to point out how the youth may develop themselves so as to make good soldiers if their country calls.

Before discussing the qualifications for service in the

National Guard, permit me briefly to call to mind the duties for which applicants must prepare themselves. They represent the moral and physical force on which the governor of the state depends for preservation of law and order, to suppress riots and insurrections and to repel invasion. The dignity and responsibility of such duties need not be dwelt on, but should always be incorporated into the very being of the citizen soldier. Any personal sacrifice he may make is as nothing when compared with the good of the service and the honor of his State. But the real duty of the guardsmen does not stop at the state line when the nation is involved in war. They should be the first in the volunteer service, and whether they go out as regiments or individuals should be left to the U. S. War Department. There the probable scope of the war is better known than elsewhere. If few regiments are required, they may be called out en masse. If many will be needed, separate enlistments are preferred, since skeleton regiments of guardsmen can be filled with raw recruits.

The difference between ordinary national-guard discipline and that of the army on war footing has to be reckoned with in the officering of troops in the field. The better the discipline in any regiment, and the more closely the physique of it conforms to the regular army standard, the more likely is it to be called out with its own officers in case of need. Line officers should remember that care of the health of their commands and reports to headquarters are important elements in determining their efficiency.

It may be conceded that some of the functions of the National Guard may be just as well performed by men not up to the army standard in every particular. For service in street riots, where action must be at close quarters, the high standard of eyesight is not required, and dependence on glasses does not impair a man's usefulness. Here, the same maturity and seasoning is not imperative. The troops are usually quartered in comfortable barracks or camped in very favorable locations, and many of the hardships of field service avoided. The guardsman will probably not see hard service and a very important part of his work will be to develop his physique so he can do the full work of a soldier. The bones, muscles and vital organs have not developed fully enough for the severe work involved in active service before the age of 22 years, but it is acknowledged that younger men more readily acquire the drill and habits of discipline so necessary for the soldier. The recruit should therefore be enlisted at 18 or 19, if sound, and possessed of a physique promising the full army standard at maturity. To that end a careful physical examination should be made and the record preserved. After two or three years of weekly drills, and two or three short seasons of actual work in camp, the guardsmen should be eligible to enlistment in a body of men selected with the greatest care as to mental, moral and physical qualifications, of mature age and with considerable military experience. They should be enlisted and equipped for active service at any time and might be called "minute men" or "veteran guards." Their colonel should be a regular army officer, and they should each year have a tour of duty for at least a month, at some regular army post. For these men the standard of the United States Army in time of peace is none too high.

For the ordinary national guardsman we will consider in what respects the army standard may be departed from without endangering the efficacy of the guards. For many reasons a minimum qualification should be advanced, and all men who can reasonably be expected to

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develop up to the required standard on devoting themselves to the drills should be accepted. On the other hand, all who would be likely to break down at the first severe test must be rejected. Besides the exact physical condition of the recruit, his family and personal history must be investigated and the diseases from which he has suffered considered. With these favorable, we may, after a careful physical examination and accurate measurement of height, weight and chest description and measurement, predict very accurately what the average youth of 18 will be at 22. Upon this postulate I shall base the following outlines. At 22 he may be expected to be from one to two inches taller in total height. The distance from the center of the symphysis pubis to the upper border of the breast bone (chest fully expanded) is a most important measurement, and one which, taken with the girth at the navel and horizontally at the angle of the scapula at inspiration, forms the basis for a very accurate calculation of the capacity of the space occupied by the organs of circulation, respiration and nutrition. This sterno-pubic measurement has the advantage of but a slight variation between 18 and 22 years of age. The chest at inspiration will average 1 1/3 inches more at the latter age, and the girth of the abdomen will have increased slightly less. The total height may be expected to increase about 1 1/2 inches, mainly by the natural growth and ossification of the epiphyses (chiefly the lower epiphysis of the femur and the upper epiphysis of the tibia and fibula). Since complete union of these epiphyses does not always take place before the age of 25, height may be increased by lengthening of the legs up to that age.

The average weight for the American male at the age of 22 will be estimated by allowing two pounds for each inch up to sixty-seven inches, and five pounds for every inch above this. After twenty-three years the same rule holds true except that seven pounds per inch above sixty-seven must be figured. About twenty-five pounds above and below these averages seems to be incompatible with good health and physical vigor; yet when the recruit's weight approaches either of these extremes his physical examination should be made most circumspectly, particularly if the younger man approaches the maximum or the older one the minimum. If the minimum figures are approached without other explanation, analysis of the urine should be made to exclude diabetes, and symptoms of tapeworm should be looked for. In approaching the maxima, the ratio of adipose tissue to muscle should be estimated.

Actuaries of life insurance companies have made a close study of the relations of height to weight in reference to longevity in civil life, and their most approved table is given below.

Height.	Minimum Weight.	Maximum Weight.
63 inches.....	106	160
64 inches.....	111	167
65 inches.....	114	170
66 inches.....	116	174
67 inches.....	118	178
68 inches.....	124	186
69 inches.....	130	194
70 inches.....	135	203
71 inches.....	139	209
72 inches.....	142	214
73 inches.....	147	220
74 inches.....	151	226

In applying these figures to military use, it must be remembered that these are taken in ordinary clothing, and a reduction of about one-eighteenth must be made to allow for the clothes.

THE TREATMENT OF ANEURYSMS BY SUBCUTANEOUS GELATIN INJECTIONS.

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The year 1898 added still another to the many methods that have been advanced to the treatment and cure of aneurysms. To Lancereaux of Paris is due the credit of having introduced this method to the medical profession. The treatment in question consists in the injection of sterilized solutions of gelatin into the subcutaneous tissues.

The method is based on the experimental work of Dastre and Floresco¹, who studied the effect of gelatin solutions on the coagulability of the blood. These observers went only so far as to show that the coagulability of the blood was increased when the gelatin solution was brought into direct contact with it, whether this be the circulating blood of the animal or the blood of the animal after removal. They found that the injection of gelatin solutions into the blood-vessels of dogs and rabbits caused a rapid coagulation of the blood. They employed for their experiments 0.8 gram of gelatin per kilogram body weight of the animal, in 5 per cent. solution, 0.8 per cent. sodium chlorid solution being used as the dissolving medium. The gelatin solution, however, did not possess the power of neutralizing the anticoagulative action of oxalates and other strong salt solutions. A definite antagonism existed between the coagulative effect of the gelatin and the anticoagulative effect of the proteoses and propeptone. The coagulative action of the gelatin was to the anticoagulative action of Witte's peptone as 1 is to 3.

Camus and Gley² were able to confirm the observations of Dastre and Floresco. They did not believe that the increased coagulability of the blood was due to any specific action of the gelatin, but rather to the acids which the gelatin contained. By neutralizing the acidity of the gelatin with sodium carbonate, they claimed that it lost its coagulative action, and that this action was increased by increasing its acidity. According to Camus and Gley, the antagonism of gelatin and propeptone is due to the acidity of the former and the alkalinity of the latter. Floresco³ agreed in part with the explanation of Camus and Gley, but still insisted that the effect of gelatin was not due to the acid it contained, though in large part to a specific action which it possessed.

Although Dastre and Floresco were the first to demonstrate that gelatin increased the coagulability of the blood when brought into direct contact with the latter, Lancereaux was the first to show that the same effect could be obtained by the injection of the gelatin into the peritoneal cavity and subcutaneous tissue. He proposed to use this action of gelatin as a therapeutic agent in the treatment of aneurysms.

Lancereaux⁴, in association with Paulesco, first brought this method of treatment before the members of the Academy of Medicine, in Paris, in June, 1897, and subsequently in October, 1898. They⁵ reported five cases in which they had adopted the treatment.

Technic of Giving the Injections.—Lancereaux gives the following directions for the making of the gelatin solution and the giving of the injections. The solution is made by dissolving 4-5 grams of white gelatin in 200 c.c. of 0.7 per cent. sodium chlorid solution, and steriliz-

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