the constituents of this low-grade dietary and add to it the amount of each received in the milk and sandwich meal.

	Animal Protein	Total Protein	Animal Fat	Total Fat	Carbo-hydrate	Calcium	Phos-phorus	Iron	Calories
Orr's Group 1 diet in grams	22.5	63.4	50.7	71.6	348	0.37	0.81	0.008	2,317
Milk and sandwich meal and $\frac{1}{3}$ pint milk	17.1	23.8	31.3	31.56	46.0	0.655	0.555	0.0035	576
Total of Group 1 diet and sandwich meal	*39.6	87.2	82.0	103.16	394.0	1.02	1.365	0.0115	2,893
Standards advised by Stiebeling and Orr	*25	75		98		1.0	1.3	0.0115	2,500

* The League of Nations report suggests 44 grams of animal protein for a *growing* child; the additional $\frac{1}{3}$ pint of milk as mentioned below would give this.

It will be seen at once that the diet of the poor plus the milk and sandwich meal approaches the recommended standard. Another $\frac{1}{3}$ pint of milk is sometimes given with the milk sandwich meal to big growing boys and girls who do not progress. The Glossop school supplementary meal is very rich in high-grade animal protein (needed for growth). Through its whole-meal bread, liver, and yeast, etc., it is rich in vitamins B₁ and B₂; vitamin A is supplied by the large amount of animal fat in the butter, cheese, and milk; C is contained in the raw vegetable, and D in the butter. The sandwiches are so cut (in halves and quarters) that the amount given can be varied according to age.

It is usual to take the heights and weights and assess the condition of the children clinically by watching the progress of those having school meals. In addition, I would like to point out the desirability of testing also their strength and endurance: by the dynamometer for strength (estimating by pull in lb. over weight in lb.), and by some such test as the hanging bar for endurance. This latter test is conducted by getting a boy or girl to hang on a horizontal bar and noting with a stop-watch the number of seconds he or she can hang on. I would also emphasize the advisability of some such tests in the case of malnourished children before they are allowed physical exercises, as excessive exercises in such children may be harmful.

Summary

1. The home diets of large numbers of school children are deficient to an extent likely to cause malnutrition, judging malnutrition as a complex condition associated with (a) poor physique; (b) deficient growth (council schoolboys aged 14 were found to be 3.1 in. shorter than Christ's Hospital boys and 5.7 in. shorter than the boys in a large public school); (c) clinical defects and diseases; (d) deficient strength, estimated by pull in lb.; and (e) endurance and also perhaps instability (as body weight judged by the Romberg test).

2. The extent of the deficiency should be ascertained locally by home budget inquiries carried out by the M.O.H. or S.M.O. and assisted by the appropriate Government Department.

3. The constituent missing from the diet should be supplied by a system of school meals in such a way that through home and school feeding the child obtains an adequate and balanced diet.

4. Functional tests of strength and endurance should be carried out among school children to see if they are fit for the physical exercises curriculum, such tests being done by those responsible for the exercises in co-operation with the S.M.O.

Abstract from Budget Analyses of 52 Working-class Families in Glossop

Total income per week of 52 families, £108 0s. 4d. Total expenditure on food per week, £60 0s. 10 $\frac{1}{2}$ d. Total man-value of 52 families, 229. Total amount of income per week per man-value, 9s. 5 $\frac{1}{2}$ d. Amount spent on food per week per man-value, 5s. 3d. Total amount spent by 52 families per week on overhead charges (rent, heating, lighting, clubs, and insurance), £40 12s. 2d. Amount spent per week per man-value on overhead charges, 3s. 6d. Total individuals in 52 families, 277. Total income *per head* per week in 52 families, 7s. 9 $\frac{1}{2}$ d. Total amount spent on food *per head* in 52 families, 4s. 4d. Total amount of overhead charges *per head* per week, 2s. 11d. Sir J. B. Orr's Group 1, amount spent on food *per head* per week, 4s.

PARALYSIS DUE TO POSTURE

BY

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The following cases of nerve paralysis, which are apparently due to pressure during the maintenance of some posture, have been collected from the notes of patients attending the Physical Treatment Department of King's College Hospital during the last ten years.

Anterior Tibial Nerve Paralysis

Case 1.—In a woman, aged 59, there was a sudden onset of foot-drop when she was kneeling to clean a grate in April, 1926. On examination the external popliteal nerve was found to be tender and thickened at the neck of the fibula. Only the anterior tibial group of muscles were affected, the peroneus longus and brevis being normal. The faradic reaction was present but reduced, in April; by July it had completely disappeared. However, there was return of fairly strong foot dorsiflexion by September.

Case 2.—A man, aged 42, had a sudden onset of foot-drop while gardening in a crouching position in March, 1926. Only the anterior tibial group of muscles were affected. There was a history of a wound in the thigh during the war, but there was no paralysis at that time. The duration of paralysis was sixty days.

Case 3.—A man, aged 23, had sudden foot-drop after kneeling for over an hour in October, 1923. It lasted for twenty-four days.

Circumflex Nerve Paralysis

Case 4.—A woman, aged 52, discovered paralysis of the deltoid muscle on waking one morning in February, 1936. She was suffering from fibrositis in the scapular region following an attack of influenza previous to the paralysis, the duration of which was two weeks.

Case 5.—A man, aged 37, discovered paralysis of the deltoid muscle on waking one morning in March, 1936. The paralysis disappeared in a short time, but returned the following day. He had been previously suffering from fibrositis in the scapular region, and for a fortnight before the paralysis developed cramp if sleeping on either arm. The duration of the paralysis was only a few days.

Ulnar Nerve Paralysis

Case 6.—A lad, aged 21, experienced a sudden onset of ulnar paralysis when riding a bicycle in April, 1932. He had had this before, when it only lasted one day, but the duration on the second occasion was twenty-six days. The paralysis only affected the intrinsic hand muscles, and was apparently due to pressure of the hand on the handle-bar.

Musculo-Spiral Nerve Paralysis

Case 7.—A man, aged 52, suddenly developed wrist-drop after lying down for about fifteen minutes with the hand behind the head, in February, 1926. It was a wet evening. On examination the musculo-spiral nerve seemed to be thickened at the middle of the posterior surface of the humerus. The paralysis lasted for eight weeks.

Case 8.—A man, aged 37, had a sudden attack of wrist-drop after sleeping in a chair on a Saturday night after indulging in alcohol, in December, 1927. The duration was thirteen days.

Case 9.—In a man, aged 31, there was sudden onset of wrist-drop after sleeping with one arm hanging over the side of the bed, in January, 1928. He denied alcohol as the cause. He returned to work after fifteen days, not completely recovered.

Case 10.—A man, aged 37, had a sudden onset of wrist-drop after falling asleep with his head on his wrist, in January, 1933. It lasted for seven weeks.

Case 11.—In a man, aged 68, a sudden onset of wrist-drop occurred from the pressure of an arm over a chair in February, 1935. His teeth were very septic. It lasted for two months.

Case 12.—A man, aged 40, woke up with right wrist-drop in June, 1930. He came to hospital five days later, when weak active extension of the wrist had returned. No note is available as to the duration of treatment.

In the four following cases, wrist-drop developed suddenly without any history of pressure on the musculospiral nerve.

Case 13.—A man, aged 59, developed wrist-drop one Sunday morning, with pains in the scapular region, in January, 1931. It lasted four months.

Case 14.—In a woman, aged 32, wrist-drop developed suddenly one afternoon in June, 1932. There was a history of rheumatism in the shoulder one month before, but there had been no pain immediately before the onset of the paralysis. No note was made of the duration of treatment.

Case 15.—A lad, aged 18, had wrist-drop one evening after work, in September, 1932. It lasted for twenty-three days.

Case 16.—In a man, aged 58, wrist-drop came on suddenly while he was resting his elbow on the padded arm of a chair, in November, 1929. There was thickening of the musculospiral nerve near the external condyle of the humerus. The duration was five weeks.

The following two cases of ulnar nerve paralysis also occurred without any history of pressure on the nerve.

Case 17.—In a woman ulnar nerve paralysis developed suddenly in September, 1926. The hand had been "going numb" over the ulnar cutaneous area for some time previously. There was thickening of the ulnar nerve above the elbow. The duration was ten weeks.

Case 18.—In a woman, aged 58, ulnar nerve paralysis developed suddenly after she had finished her washing, in September, 1935. The ulnar nerve was thickened above the elbow. The paralysis lasted for seven weeks.

These last six cases show that paralysis, presumably from perineuritis, may develop suddenly without pressure, and, in some cases, without any previous pain or numbness.

Transient Paralysis

An effort was made to discover to what extent minor cases of pressure paralysis occur which do not last a sufficient time to require treatment. Inquiries from hospital out-patients showed that the foot may "go dead" on crossing the knees, and that the hand or occasionally the whole arm may "be dead" on waking in the morning. This "deadness" clears up quickly on movement. In many cases it only occurs occasionally, and seems to be associated with cold and damp weather, or fatigue. I could not obtain any history of foot-drop or wrist-drop.

By making inquiries from people with a knowledge of anatomy I found that:

1. Ulnar paralysis on waking in the morning, after resting the arms on the side of a chair, or from sleeping with the hands behind the head, is fairly common.

2. The foot may "go dead," but only rarely do the leg muscles become definitely paralysed by sitting with the knees crossed.

3. In a few cases the whole arm is occasionally paralysed on waking in the morning.

These paralyzes always clear up quickly on movement. In several instances they did not occur regularly, and were more likely to occur in damp and cold weather or when the person was fatigued. In one case the presence of a septic focus increased the intensity and frequency of occurrence, but did not seem to increase the duration. Thus the causes are similar to those of fibrositis, with which it is often associated. I could find no case of wrist-drop or of foot-drop from kneeling.

Points of Interest

The twelve cases of pressure paralysis due to posture represent the total number which attended the Physical Treatment Department of King's College Hospital during ten years. Since, presumably, all patients of this type who attended the hospital would be ordered physical treatment, the number seems very small, considering that several of the postures in which paralysis occurred are regularly assumed.

No cases of ulnar nerve paralysis from pressure on the arm, or of foot paralysis from crossing the knees, occurred in this series, though these two types are frequently found in the mild form which clears up on movement. On the other hand, I could not trace any mild cases of wrist-drop on waking in the morning, or foot-drop after kneeling, which recovered too quickly to require treatment, either among hospital patients or friends.

No patient came a second time to the hospital with a recurrence of the paralysis. This is a point against any anatomical peculiarity being the cause.

The fact that the majority developed in the colder months of the year suggests that cold and damp may be a predisposing cause.

The external popliteal division of the sciatic nerve was compressed from kneeling rather than the internal division. Presumably the nerve must have been compressed between the biceps tendon and the fibula.

The six wrist-drop cases were in men, and of the four cases of wrist-drop not due to pressure only one was in a woman. In only one case was a history of paralysis following indulgence in alcohol obtained.

The electrical reactions varied. In one case the faradic reaction disappeared, but in the majority it was normal or slightly reduced, and the galvanic reaction was rather sluggish.

Conclusion

Some of these cases can be explained as perineuritis with added pressure. A few were probably due to pressure only. It seems likely that in the others fatigue, cold and damp weather, or a septic focus may have been the predisposing cause. It would operate by affecting the circulation of the limb and making the nerve more sensitive to pressure without actually causing a perineuritis, since this variation in sensitiveness to pressure is found to be of common occurrence.

H. Vignes (*Progrès Méd.*, May 30th, 1936, p. 921) states that according to W. H. Perkins the gravity of spirochaetal jaundice in pregnancy is closely related to the height and duration of the fever. Renal involvement is a bad sign. Haemorrhages are not specially frequent at the time of delivery. Interruption of pregnancy is not uncommon. Experimentally Mirto observed it in 70 per cent. of his animals. In human subjects abortion or premature delivery may be met with, especially in the Tropics and under unfavourable hygienic conditions. Abortion is particularly frequent in Japan, where severe forms of spirochaetal jaundice are common. The foetus as a rule is infected. No special treatment is indicated.