

Observations on "Children Hard to Handle".

By

GUNNAR WOLLIN,

Temporary Director of the Eastman Institute, Stockholm.

616.314.089.053.2.

It will not be possible to establish an exact and objective limit between children which are "hard to handle" and the average child, on account of the relativity of the idea and the subjectivity of judgment. The relativity is perhaps best realized if we consider the factors that influence and determine the child's response to dental treatment. Generally speaking, this all depends on the balance between the child's disinclination for or aversion to treatment on the one hand, and the ability and desire of the dentist on the other to overcome or lessen this aversion. Thus, the deciding factors for the response to treatment are the child's susceptibility and the dentist's own capacity to influence the child with the means at his disposal, among which I must naturally include the external conditions under which the treatment is effected. I shall return to this question later.

All cases of medical interest from the institute's dental departments are sent with a written questionnaire to the pediatrician of the institute, who submits a statement on each particular case with diagnosis therapy etc. concerning any diseases or conditions that may be of importance for the dental treatment of the patient.

After this piece of introductory information, I will now proceed to my subject.

The reason why a child is "hard to handle", why it does not show the same mental reaction to dental treatment as the majority of other children, may *inter alia* be due to nervousness, or mental defect; such children are therefore sent from the

department of operative dentistry to the pediatrician of the institute.

Children whose treatment has caused or been presumed to cause considerable psychological difficulties are looked upon as being "hard to handle" or "non-responsive" cases. To this group has been assigned every single case that was sent during 1938 from the department of operative dentistry to the pediatrician of the institute, Dr. C. W. HERLITZ, and that was categorized as "hard to handle" or "impossible to handle".¹ We have aimed at attaining as great a uniformity as possible in these cases, in that they were sent only by me or one of the two permanent dentists of the department, S. STENBERG and I. SUNDVALL-HAGLAND, and we often had consultations about these cases. The total number of such patients during the year was 58. Of these no less than 49 were sent by the same dentist or by me.

The cases were either judged immediately after the examination or else after a varying number of treatments. The number of first complete treatments² which were sent straight to the pediatrician after an examination and a proposal for treatment, or after extractions alone, was 24, while the number of cases sent after one or more treatments had been made was 27. For the total group of cases "hard to handle", the corresponding numbers were 26 and 32 respectively.

Children under the age of 2 were not sent to the pediatrician as being "hard to handle", for with few exceptions they are usually "hard to handle" before this age.

No other selection of the cases sent has been made. As 1939 was the first year that we decided to make a statistical survey of this group of patients, the possibility of a tendency may be excluded.

Thus, even though this group of patients does not comprise very definite cases and is, moreover, not distinctly limited, it seems probable that it includes the majority of the most "hard-to-handle" cases which began to be treated in the department of operative dentistry in 1938. It will therefore be of interest to examine this group more closely from certain points of view.

¹ In three cases of more serious mental defect — debile psychopath, imbecile, and Mongolian idiot — the cases sent were differently formulated but of the same meaning, viz.: "Treatment without narcosis does not seem possible", "Avertin narcosis", "Treatment will probably be very difficult to effect". These three cases were naturally included in the group.

² See p. 64.

With regard to the size of the group the following points should be borne in mind. The department receives 3 groups of patients:

1) Children whose guardians apply for treatment on behalf of the children. Under the age of 4 years all cases are received, above this age only children belonging to families, which for financial reasons are entitled to treatment at the institute.

2) All the pupils in the classes 1—7 of three elementary schools in Stockholm.

3) Cases which for technical reasons are sent to the institute by physicians and dentists. A number of "hard-to-handle" children belong to this group.

From this it will be seen that too far-reaching conclusions must not be drawn on account of the size of the group of those children which are "hard to handle", as the regulations for receiving patients at the institute may play a certain part in this respect. On the other hand there seems no reason to suppose that these regulations have anything to do with the composition of the group as regards sex, age, mental state etc.

With regard to treatment applied for at the institute, the group of "hard-to-handle" children have been divided into three sub-groups: first complete treatments 51, revisory complete treatments 4, emergency treatments 3. Concerning these sub-groups, I wish to give some information. The cases of first complete treatment in the pre-school age have as a rule not received any dental treatment except in certain emergency cases. The revisory complete treatments are mostly made about 6 months after the termination of the preceding complete treatment. If more than 12 months have elapsed between the termination of one complete treatment and the examination prior to a subsequent period of treatment, the new treatment is regarded as first complete treatment. Owing to the fact that the patients of the pre-school age are requested by telephone or by letter to present themselves for examination every sixth month, or often-er, such cases are fairly rare. Trauma and toothache are classified as emergency cases, and on these occasions no other teeth are attended to.

Judgment of "hard-to-handle" cases is not entirely uniform in the three sub-groups. In the emergency cases it may easily be misled by shock and pain. The revisory cases have all received complete treatment in 1 to 5 different periods with average in-

tervals of about 6 months. Consequently these cases have not presented any *strongly marked* difficulty. The fact that they have been classified as "hard to handle" is due to their having shown more resistance than is usual in revisory complete treatments.

I have therefore thought it advisable on account of certain details to make a special statement concerning these 3 emergency cases and 4 revisory complete treatment cases.

Sex Distribution.

Of the above mentioned 58 cases, 33 are boys and 25 are girls. In a comparison it may be mentioned that according to the average sex distribution in Stockholm in the age group 2—16 years for Dec. 31, 1937 — the most recent data published — the number of boys and girls is practically the same. In the present material of "hard-to-handle" cases there is thus a preponderance of boys. The material is insufficient, however, to allow of general conclusions.

Age Distribution.

Of the 51 first complete treatments, no less than 49 are between the ages of 2 and 7 (born 1926 and 1931)¹, whereas only 2 cases occur in the age group 8—16 (born 1930—1922). No patients above the last mentioned age are received in the children's department, and more advanced ages have therefore not been included here. As the number of first complete treatments in the different year groups varies considerably, it is easiest to judge the frequency of "hard-to-handle" cases of first complete treatment as percentages of the total number in each respective year of birth. The cases which began to be treated in 1938 are included here, even if the treatment was terminated during that year or in the beginning of 1939. The total number of treatments only includes the first complete treatments which were *terminated* during the year 1938. As neither the influx of patients nor the principles of treatment in the department were subjected to any substantial changes from 1938 to 1939, this dissimilarity in se-

¹ Here, as in the following discussion, the exact years of birth are given within brackets. The approximate corresponding age is as a rule given in the text, before the brackets.

Table I.

First complete treatments "hard to handle" in 1938; total number of first complete treatments; the former as percentages of the latter. Distribution according to year of patient's birth.

Year of patient's birth	Number of first complete treatments		"Hard to handle" in % of total number of first complete treatments
	Total ¹	"Hard to handle" among these ²	
1937	2	—	—
1936	43	5	11.6
1935	316	14	4.4
1934	531	16	3.0
1933	519	6	1.2
1932	395	5	1.3
1931	275	3	1.1
1930—1922	1,166	2	0.2
Total	3,247	51	1.6

lection will not be of any real importance. Table I shows that, among the cases of first complete treatment, the percentage of "hard-to-handle" cases is greatest in the lowest ages, and then decreases very evenly to 1931, i. e. children of 7. Between 1930 and 1922, i. e. 8—16 years of age, we find, as mentioned above, only two cases, one child aged 12 (born 1926) and one of 15 (born 1923).

The 3 emergency cases and the 4 cases of revisory complete treatment are naturally too few to form an age group. It may be of interest to mention, however, that 6 of the cases are between 4 and 6 (born 1934—1932), while one case, a revisory complete treatment, is older, 10 years of age (born 1928). Thus, of all the 58 so-called "hard-to-handle" cases, 55 are from 2—7 years and only 3 are older.

¹ Under this heading are included only the first complete treatments which were terminated during the year 1938.

² Under this heading are included all cases which were begun during the year 1938, irrespectively of whether the treatment had been completed in 1938 or at the beginning of 1939.

Mental State.

Table II.

The "hard-to-handle" cases in 1938 classified according to the treatment applied for and the mental state of the case.

Nature of treatment	D i a g n o s i s			Diagnosis not stated	Total
	Mentally normal	Nervousness	Mentally defective		
First complete treatments . .	5	19	23	4	51
Revisory complete treatments	0	2	1	1	4
Emergency treatments . . .	0	1	2	0	3
Total	5	22	26	5	58

As mentioned in the introduction, certain cases were sent to the pediatrician in order to obtain a mental diagnosis as a guide to the dental treatment: in some cases, e. g., of obviously delicate health or marked nervousness, medical treatment was first advised by the pediatrician, in order to make a subsequent dental treatment possible or easier. Certain cases were also sent with a view to obtaining a report as to whether there was anything to prevent the use of local anaesthetics or narcosis, if these were necessary to carry out treatment. Finally, in some cases of advanced mental defectiveness, the object was to obtain a medical opinion as to whether the mental state warranted complete or only emergency treatment.

With regard to the "hard-to-handle" group considered as a whole, the mental diagnosis will be of the greatest interest. These diagnosis are given in table II. Under the heading "mentally defective" has been included idiocy, imbecility, debility, psychopathy, neuropathy and hysteria. This table also includes cases in which the pediatrician diagnosed nervousness.

Of the 51 cases of first complete treatment, only 47 could be examined by the pediatrician, either because some patients failed to appear or for other reasons. Of these 47 cases, only 5 were diagnosed as "mentally normal", while 23 were mentally defective, and 19 were nervous cases. Out of the 4 revisory complete treatments, 3 were examined, 1 was mentally defective and 2 were diagnosed as nervous cases. Of the 3 emergency

cases, 2 were mentally defective, and in 1 case the diagnosis was nervousness. Thus of the 58 "hard-to-handle" cases, 53 underwent mental examination, of which only 5, or 9 per cent, were found to be mentally normal, while 26 cases, or 49 per cent, were mentally defective, and in 22 cases, or 42 per cent, the diagnosis was nervousness.

In the cases in which uniformity of selection and circumstances permit a generalization of the observations made in a group of "hard-to-handle" children, nine out of ten may be presumed to suffer from nervousness or to be mentally defective. This should be a useful observation in the treatment of this particular category of children.

Variability of the Resistance to Treatment.

As a rule, the resistance of the individual to treatment is not constant. It is often subject to changes, which cannot be entirely explained by the two above-mentioned factors, age and mental state, which factors influence the patient's resistance to treatment even on the occasion of the first examination. If the pediatrician is of the opinion that medical treatment should precede dental, for instance medicinal treatment, change of diet and external conditions in cases of nervousness, the supervision of a public institution or even hospital when necessary, and so forth, we may assume that the child's resistance to treatment will be less. Several of the above-mentioned "hard-to-handle" cases received such medical treatment before beginning or after a few dental treatments. The effect of this medical treatment on the resistance to dental treatment, however, can hardly be stated in figures.

After the treatment has begun, a change in the resistance to treatment may often be observed, which should be attributed to the fact that the patient is becoming accustomed to the treatment. The greater response in subsequent treatments seems to prove this. This is shown *inter alia* by the fact that, among the 55 "hard-to-handle" cases, 51 were first complete treatments and only 4 revisory complete treatments. If age were the only decisive factor, the numerical difference between the groups would be considerably smaller. The majority of the revisory complete treatments were made only 4—7 months after the first complete treatments. In this connection we should also mention

another factor which may be thought to affect the resistance to treatment to a varying degree in the cases of first complete treatments and in those of revisory complete treatments, it being probable that the first group comprises a larger number of deep caries cavities than the second group. That this does not seem to be a decisive factor in the decrease of resistance to treatment is seen from the fact that in the examination preceding a period of treatment, revisory complete treatments rarely present any difficulty which, on the other hand, is often the case with the "hard-to-handle" first complete treatments. The effect of familiarity with the treatment may be observed, not only from one period to another but also in the same period. I shall return to this point under the heading "Results of Treatment".

With regard to the variability of the resistance to treatment, I also wish to call attention to a couple of observations which have no doubt been made by every dentist who has treated small children, namely that the resistance to treatment is as a rule less in the morning than in the afternoon, and that also after having been noticeably greater on one occasion, it may be more or less normal at a subsequent treatment. These temporary deteriorations must probably be attributed to temporary mental or physical weakness.

Technique of Treatment.

In the foregoing pages I have discussed some of the factors which are especially important when dealing with the susceptibility of children: age, mental state, habituation, etc. I shall now proceed to discuss some of the factors by which the children have been influenced. It should be remembered, as mentioned above, that of the 58 "hard-to-handle" cases, no less than 55, or 95 per cent, were at the pre-school age, the years of birth thus ranging from 1936 down to and including 1931.

I will first touch upon certain questions relating to the general technique of treatment concerning children as a whole, and not only those who are "hard to handle".

With regard to the most suitable conditions in waiting-rooms and surgeries, opinions are at variance. Some think that it is advantageous from a psychological point of view to get together many children, others consider this to be a disadvantage. The experience gained in the department of operative dentistry at

the Eastman Institute, where many children are collected, to my mind indicates clearly that the force of example may to a large extent influence the patient's response to treatment. A screaming child influences the others negatively, however, quite as much as a "good" and cheerful child does positively. The best positive influence is therefore exerted on children generally by the removal of screaming children both from the waiting-room and from the large operating room. By this means, the force of example will act on most of the children only in the way desired. In these circumstances a good example has proved to be a very valuable expedient. At the Eastman Institute matters have been arranged in the following manner. Experience has shown that the children which most often scream in the waiting-room are those of the pre-school age with toothache. Emergency cases belonging to this category have therefore a waiting-room of their own, entirely separate from the large one. Again, if a child in the large waiting-room cries or screams, which seldom happens, it is taken to a separate room as soon as possible. The result is that the children in the waiting-room are almost always happy and contented. There are big playthings about, and this largely contributes to a cheerful state of mind. The entire environment of the waiting-room must also rouse their interest, with all the paintings on the walls, representing well-known scenes from fairy-tales, songs and stories.

But it is remarkably seldom that a child looks at these of its own accord. The same is true of the bird-cage and the aquarium. Naturally these things may in a sub-conscious manner contribute to the atmosphere, but as a rule they only seem to become a conscious attraction on the initiative of the person accompanying the child. The older children, on the other hand, quite apart from any initiative from those accompanying them, are just as absorbed in the illustrated weeklies as the little ones are in the toys.

In the large operating room there are 26 chairs, 25 of which are occupied while one is kept in reserve. In this room no treatments go on that are not effected in silence. If a child begins to scream, the treatment must be interrupted and will be continued in one of the two separate rooms adjoining the large operating room, with one chair in each. In these rooms the first treatment of the youngest children, aged 2 or 3, usually takes place. After such a first treatment the dentist often takes a stroll round the big room with the little patient, in order to show him how brave

the other children are. In most cases it encourages the child to be told that "next time you will probably be allowed to sit here with the big children". Occasionally it happens, however, that this diplomacy has no effect and the child prefers the smaller room. This happens comparatively rarely and only with the youngest children.

The question is often asked, whether those people accompanying the children may be present during the treatments. The answer should not be categorical. But I may state that experience has taught us that only in exceptional cases is it advantageous to let anyone be present. In the majority of cases it is even a great disadvantage. As a rule it is only in the cases of the youngest children under the age of 2 or 3 that it is advantageous to let the mother be present once or twice, until the child has had time to get used to the dentist.

Of the technical measures by which children may be influenced or which may lessen their aversion to the treatment, the first to be considered is the local anaesthetic, particularly if the experience gained in the treatment of adults is taken as a criterion.

In the department of operative dentistry, novocain-suprarenin and novocain-corbasil carpules are always available and are used as soon as the dentist finds that local anaesthetics will be helpful in treatment. The number of local anaesthetics in the different age groups is thus an empirical expression of the help afforded, or considered to be afforded, by local anaesthetics in these groups. As the year groups are very unequal in size, however, the absolute number of injections within each age group throws but little light on the age distribution of the injections. By far the greatest number of revisory complete treatments take place, as mentioned above, 4—7 months after the immediately preceding treatment. In the case of such frequent revisory complete treatments, the fresh cavities are as a rule shallow and require less often local anaesthetics, even at ages when it is most generally used. In addition to this, the average number of treatments in revisory complete treatment cases is only about one fourth of the average number of treatments in the case of a first complete treatment. On the basis of the material at my disposal, it therefore seems to me that the best idea of the age distribution of the local anaesthetics will be obtained by calculating the number of local anaesthetics per 100 first complete treatment cases for each year group.

Table III.

Number of local anaesthetics carried out in the department of operative dentistry at first complete treatments in 1938, distributed according to the year of the patient's birth.

Year of birth	Number of injections	Number of injections per 100 first complete treatments
1935	4	1
1934	9	2
1933	22	4
1932	55	1
1931	75	14
1930	35	30
1929	17	27
1928	31	54
1927	56	77
1926	111	95
1925	189	175
1924	316	154
1923	631	220
1922	294	209

Table III shows that up to and including the six-year olds (born 1935—1932), local anaesthetics were very rarely used. From the age of 7 there is a fairly even increase year by year, which is strongly accentuated at the age of 13 (born 1925). From this age onwards an average number of about 2 local anaesthetics were given at each first complete treatment. This age distribution of the local anaesthetics agrees well with the empirical observation in the department of operative dentistry that local anaesthetics as a rule are of no help in the cavity preparation of the temporary teeth. That local anaesthetics have been used at all in the youngest age groups is either due to the fact that an attempt was made to find out whether it might possibly be of any help in the individual case in a cavity preparation, or else to the fact that especially timid children were not sent to the surgical department for the extraction of a milk tooth but were treated in the department of operative dentistry by the dentist whom the child had got to know after many treatments. Ex-

traction was then as a rule made under local anaesthetics, and if possible as the last treatment in a series of treatments.

It is only when the cavity preparation of the six years molars begins that local anaesthetics are advantageous in certain cases. But not until the age of 12 or 13 do local anaesthetics become really important.

With regard to local anaesthetics, the "hard-to-handle" children were treated in the same manner as the others, and as already mentioned, the majority of these cases belonged to the pre-school age, it follows therefore that local anaesthetics have seldom been resorted to in the case of such children. Of the 58 "hard-to-handle" children, 50 were treated in the department of operative dentistry. The records of these children show that local anaesthetics were only administered in 3 cases. Of these, one child, born 1931, was anaesthetized on 4 different occasions, twice for temporary and twice for permanent teeth; 1 case born 1934 and 1 born 1935, each received local anaesthetics for cavity preparation in temporary teeth. In all these cases the treatments were first complete treatments.

In the majority of the "hard-to-handle" cases local anaesthetics thus seem to be of little or no importance in cavity preparations.

In the year 1938 operations under avertin narcosis were not resorted to in any case. In the previous year a certain amount of operative dentistry was carried out under narcosis, it is true, avertin being used as the basic narcosis in order to reduce the quantity of ether. In order to give the dentist a chance of doing as much work as possible between each time the narcosis mask is put on, it is often necessary to anaesthetize the patient more deeply with ether, even though avertin narcosis is used as a basis. The risk involved in narcosis and inhalation has after consultation with the pediatrician resulted in such restrictions in their use that, as has already been stated, this form of anaesthetic was not used in any case during 1938.

If, as the experience of local anaesthetics seems to indicate, the sensation of pain in the preparation of a cavity is not equally pronounced at the pre-school age, as it is at the school and post-school ages, it seems to be the reverse with regard to shaking and pressure. "Do not press hard" is a request often made by the younger children. It is therefore often necessary to work with low burr numbers and small manual instruments, and to make the dentist's fingers serve as automatons etc.

It should also be mentioned that a method of technique adopted when attending to the "hard-to-handle" children as well as to the timid type of little ones is to let the first treatment be only apparent, and to let the first cavity preparation be as simple and painless as possible. Unfortunately this rule cannot be adhered to in the emergency cases, which undoubtedly contributes to the fact that tears are comparatively frequent in these treatments in the pre-school age.

Even though technique of treatment, general arrangements and organization are of great importance in order to reduce the child's aversion to treatment, the dentist's power of mental influence plays a still greater rôle. Diverting the child's attention, encouragement, flattery, explanations, kindness, firmness, bribes in the form of an empty box, a discarded mouth mirror or something like that, are means which often lead to the desired end. But it is not everybody's good fortune to be able to successfully apply these methods of influencing the child, and to perceive quickly and judge intuitively which of them will give the best result in a special case and on a particular occasion. From this it follows that a child may seem "hard to handle", or even to be impossible to treat, by one dentist, whereas the treatment may be effected without friction by another. A success of this type is not a victory easily won, however. On the contrary, in difficult cases there is a constant battle between two wills, two natures, and the dentist must always be the winner.

In the department of operative dentistry, besides the head of the department, 2 dentists are permanently employed. The majority of the dentists working in the department are assistants, who are appointed for 2 years at most. All the cases are examined before treatment by the head of the department, or by one of the other permanent dentists, who plans a scheme for treatment, and in difficult or complicated cases decides which dentist is to carry out the treatment according to the proposed scheme. From Jan. 1, 1938—June 30, 1939, when the "hard-to-handle" group received treatment, altogether 49 different dentists were attached to the department.

The "hard-to-handle" cases received either one or several treatments from one of the two permanent dentists, who then handed over the patient to a dentist suited to the case in question¹, or else the head of the department or one of the permanent

¹ In 4 cases the treatment was completed by the permanent dentist.

dentists put the case directly in charge of an assistant dentist. By this means we tried to give the "hard-to-handle" cases to those dentists who seemed to be most suited for that particular case. As mentioned above, 50 of the 58 cases were treated in the department. These cases are therefore not evenly distributed among the 49 dentists but were treated by only 22 of them, 20 treating 1 to 3 difficult cases each, while 2 treated in all 18 cases.

Both in the cases of "hard to handle" as well as other children we adhere, with certain exceptions, to the rule that, if possible, the dentist who has begun the treatment shall complete it. As far as possible there is thus no change of dentist during the same period of treatment unless special reasons arise (see below).

Results of Treatment.

Of the 58 "hard-to-handle" cases, 5 failed to appear after examination or after a number of treatments, and 2 were sent to hospital on the advice of the pediatrician. Of the remaining 51 cases, one (record No. 33—474) which applied for a first complete treatment, was sent to the dental-surgical department for emergency treatment¹, the pediatrician having expressed the opinion that no tooth treatment should be effected beyond what proved absolutely necessary. The case was an imbecile. All the other 45 first complete treatments, 3 revisory complete treatments and 2 emergency treatments, were completed in June, 1939.

The decrease in the resistance to treatment which in certain cases occurred during the periods of treatment, must also be looked upon as a result of treatment. As mentioned under the heading "Technique of Treatment", only such cases as can be treated in silence are received in the large operating room. With the exception of the small number of very young children who are more easily treated in separate rooms than in the large operating room, a continued treatment in the separate rooms means that the patient cannot be treated in silence. If the treatment begins in a separate room, as is the case with all the "hard-to-handle" children, and if it is then possible, after a varying number of treatments, to transfer them to the large operating room, this constitutes an objective proof of an increased response to treatment. Out of the 48 "hard-to-handle" cases, 36 had the lat-

¹ Extraction under narcosis.

ter half of their treatments, or more, in the large operating room. In 75 per cent of the cases, a considerably increased response to treatment had thus taken place during the same period of treatment. The remaining 12 cases, or 25 per cent, were treated in separate rooms over the whole, or greater part, of the period. In these cases no improvement in response to treatment was observed, or if so, it was only in less than the latter half of the number of visits. It will be of interest to give a specialized account of these 12 cases with regard to age, mental condition etc.

Year of birth	Record No.	Mental state, etc.
1936	54	Mentally normal
1935	224	Neuropathy
1935	468	Nervousness
1934	542	"
1934	537	"
1934	485	"
1934	363	Neuropathy
1934	927	Debile psychopath (part of the symptoms of Little's disease)
1933	863	Nervousness
1933	938	Mentally normal
1932	1,113	Neuropathy
1926	769	Imbecility

With regard to the first case, it should be mentioned that at the beginning of treatment this patient was 2 years 21 days old. In the last 10 treatments the patient was treated in the big room and was then classified as very easy to treat by the dentist in charge. This child was probably "hard to handle" during the first part of the period owing to the fact that it was on the border line between the non-responsive and the responsive age. Besides this case there was one other which was mentally normal. As seen in the table, 5 of the remaining 10 cases were mentally defective, while 5 were diagnosed as nervous cases, and only 1 normal.

With the exception of the first-mentioned case, all these patients were 3—6 years old (born 1935—1932), except one, born 1926, which was an imbecile.

The two children which underwent emergency treatment in the department were born in 1934 and 1932. The former was diagnosed by the pediatrician as nervous and the latter as a Mon-

golian idiot. In both cases the treatment was completed in separate rooms.

I have so far only dealt with a positive change in the response to treatment. But there are also cases in which we can observe an increased aversion and resistance from one occasion to another. In some of these cases a change of dentist has led to an increased response to treatment. In 3 out of the 12 cases in which no, or only a slight, improvement in the response to treatment was noticeable, the treatment was suspended for 1 or 2 months on the advice of the pediatrician. After this interval the response to treatment was increased so that the treatment could be completed.

Incidentally it may be mentioned that these two procedures, change of dentist or suspension of treatment, were on several occasions adopted with satisfactory results, even in cases which have not here been classified as "hard to handle". As for the other patients in the department, as well as the group here discussed, comprising 9,286 treatment periods in the year 1938, all the complete treatments were finished off with the exception of those patients which failed to appear owing to their leaving the town, or for other reasons.

Duration of Treatment.

It goes without saying that on an average a "hard-to-handle" child takes longer to treat than other children. As far as I know, however, no attempts have as yet been made to determine this average duration of treatment.

The only way to ascertain the exact time measurement is to introduce a regular system of records, for instance stamping. If this is to be done with a large number of patients, it will take a good deal of time and can hardly be effected without the employment of an additional staff, if the capacity of treatment is to be retained. A statement which, on the other hand, is easily obtainable, is the number of visits made by a patient, for instance during one period of treatment. As a rule, one patient is received every half-hour for treatment in the large operating room of the department of operative dentistry, except between 9—10 a. m. and 1—2 p. m., when 3 patients are received. Occasionally 1 hour is reserved for treatments, especially in the case of the older patients, while less than a half-hour can be reserved

especially for revisory complete treatments. In the separate rooms one half-hour is usually allotted to each patient. The average length of a visit for all the cases, on one hand, and for the "hard-to-handle" cases, on the other, may therefore be assumed to be approximately the same. For certain time calculations the number of treatments should therefore be a suitable time measurement and will be adopted in table IV, primarily as an estimate of the time spent on "hard-to-handle" children as compared to the average time of treatment. As the number of visits varies according to the patient's age, the average number of visits for a group of patients of the same size as the "hard-to-handle" cases of first complete treatment must be calculated as a weighted average with regard to the age of the patients in accordance with the procedure adopted in table IV. According to this table the average number of visits for such a group is 474.

Table IV.

Calculation of number of treatments at average frequency and the same number and age distribution as in the "hard-to-handle" cases of first complete treatment in 1938.

Col. 1	Col. 2	Col. 3	Col. 4
Year of birth	Number of "hard-to-handle" first complete treatments	Average number of visits for all first complete treatments	Calculated number of visits at average frequency of treatments (col. 2 $\times$ col. 3)
1936	2	5.0	25
1935	12	9.0	108
1934	14	12.2	171
1933	5	13.8	69
1932	5	12.1	61
1931	2	9.5	19
1930—1922	2	10.4	21
Total	45		474

If the number of visits recorded on the index cards for the 45 "hard-to-handle" cases of first complete treatments are added up after the termination of the treatment, we obtain a number of visits amounting to 807. We thus obtain weighted averages showing that an average group of patients has been treated 10.5

for the whole group of "hard-to-handle" cases than for the average patient.

With regard to the length of treatment I have only examined the cases of first complete treatments. Both the cases of revisory complete treatments and the emergency cases are too few to allow of an average calculation.

Summary.

It will not be possible to establish an exact and objective limit between children which are "hard to handle" and the average child, on account of the relativity of the idea and the subjectivity of judgment. The reason why a child is "hard to handle" may *inter alia* be due to nervousness or mental defect. Such children, whose treatment has offered, or been supposed to offer, great difficulties, have therefore been sent from the department of operative dentistry to the pediatrician of the institute, Dr C. W. HERLITZ, who has submitted a written report on every case.

In this article all the cases sent to the pediatrician during 1938 and categorized as "hard to handle" have been reported on. Children under the age of 2, however, have not been included. Even if this group of "hard-to-handle" children does not comprise very clear cases and is not distinctly defined, it seems probable that it includes the majority of the most difficult cases of the year.

A comparison between the observations made concerning this group of patients will justify the following conclusions:

1) The majority of the "hard-to-handle" children are boys. The number of patients is too small for us to draw any general conclusions with regard to sex distribution.

2) In the material discussed here, between the ages of 2—16, the number of "hard-to-handle" cases per year group is largest in the youngest age group, or 11.6 per cent. The number decreases with increasing age up to the age of 7, 1.1 per cent, after which "hard-to-handle" cases are very rare, 0.2 per cent. The number of "hard-to-handle" first complete treatments amounted to 1.6 per cent of all cases completed in the year 1938.

3) Of all the 53 "hard-to-handle" cases examined by the pediatrician of the institute, 5 were mentally normal, 22 were

times in the department of operative dentistry, and the group of "hard-to-handle" cases 17.9 times for the completion of first complete treatments, at equal age distribution. These cases thus, for a first complete treatment, require a number of treatments somewhat exceeding 70 per cent above the average number required for the patients of the department.

As the length of the visits is fairly equal for all patients in the department of operative dentistry, an approximate calculation of the average length of the visits is possible. The department of operative dentistry in 1939 registered 37,609 hours of treatment and 86,297 visits from patients. The visits of the patients thus lasted 26.1 minutes on an average. It follows from this that the time required for an average first complete treatment is 4 hours 34 minutes, and for the "hard-to-handle" cases 7 hours 47 minutes, at equal age distribution.

Even if the greater part of the treatment was carried out in the department of operative dentistry, a by no means inconsiderable time was also spent in the dental-surgical and X-ray departments, the "hard-to-handle" cases paying on an average 2.0 visits in the former, and 1.3 visits in the latter. I have on purpose refrained from comparing the number of visits for this group of patients with the average number in these departments, the treatments here not being calculated to constitute a time measurement to the same degree as in the operative department. The length of a visit is subject to considerably greater changes in these departments than in the department of operative dentistry. The time of treatment in the latter is as a rule fixed beforehand for each visit, and the dentist tries to perform as many treatments, or as great a part of a treatment, as circumstances will allow in the time allotted. In the dental-surgical department, on the other hand, a certain *treatment* is effected during each visit, relatively independent of the length of the visit, which will therefore vary considerably. As an example, I need only mention the time required for the extraction of a milk tooth, the root of which is resorbed so that no anaesthetics are needed, and a resection of a root apex. In an individual case the deviation in time from the average may thus be expected to be very great. In the X-ray department a comparison between the number of visits for an average group of patients and a group of "hard-to-handle" children is still more unsatisfactory, because we may expect to find here a definite tendency to a more prolonged visit

diagnosed "nervous", and 26 were mentally defective. In about 9 cases out of 10, the "hard-to-handle" children were thus found to suffer from nervousness or to be mentally defective.

4) Of the 58 "hard-to-handle" cases, 5 failed to appear, and 2 were sent to hospital on the advice of the pediatrician. Of the remaining cases, only 1 received emergency treatment on the pediatrician's advice. The case was an imbecile. Of the remaining 45 first complete treatments, 3 revisory complete treatments and 2 emergency treatments all were completed.

5) Of the 48 cases of treatment, 36 were treated in the large operating room during the latter half or more of the number of visits, that is to say they were treated in silence, while the remaining 12 cases were treated in separate rooms for more than half the number of visits. Of these, the youngest child, which at the beginning of the treatment was 2 years 21 days old, was probably on the border line between the non-responsive and responsive age. Of the remaining 11 cases, 5 were mentally defective, 5 were diagnosed as nervous and only 1 was mentally normal.

6) Results of treatment have been attained by many co-operating factors: favourable external conditions, an organisation which tries as far as possible to make example act positively, the choice of the dentist who seems to be best suited to treat the individual case, suitable technique of treatment and attempts to influence the child mentally.

7) Local anaesthetics as a rule do not seem to be of any help in the preservation treatment of the temporary teeth. Not until the cavity preparation of the 6-year molars begins, at the age of 6 or 7, do local anaesthetics become an important aid. Their usefulness increases with the patient's age and is particularly increased at the age of about 13.

8) The response to treatment in most cases increases in the same period of treatment. As the number of "hard-to-handle" revisory treatments is only a fraction of the number of "hard-to-handle" first complete treatments, it may be concluded in the majority of cases that the response to treatment is greater during revisory complete treatments than during the immediately preceding first complete treatment.

9) The average number of visits for the completion of a first complete treatment in the department of operative dentistry was 10.5, while the number of the "hard-to-handle" cases

was 17.9, the age distribution being the same. This corresponds approximately to 4 hours 34 minutes and 7 hours 47 minutes respectively. For complete treatment an additional number of 2.0 visits on an average to the dental-surgical department was required for the group of "hard-to-handle" cases as well as 1.3 visits to the X-ray department.

Zusammenfassung.

Eine objektive und scharfe Grenze zwischen Kindern, die schwer oder leicht zu behandeln sind, dürfte nicht möglich sein, und zwar sowohl auf Grund der Relativität des Begriffs als auch der Subjektivität der Beurteilung.

Wenn ein Kind schwer zu behandeln ist, kann die Ursache unter anderem Nervosität oder ein psychischer Defekt sein. Daher sind alle diejenigen Fälle der konservierenden Zahnabteilung, deren Behandlung grosse Schwierigkeiten in psychologischer Hinsicht boten oder vermutlich bieten würden, dem Kinderarzt des Instituts, Docenten C. W. HERLITZ, zugewiesen worden, von welchem schriftliche Äusserungen über jeden Fall vorgelegt worden sind.

In der vorliegenden Zusammenstellung ist über sämtliche Fälle, die während des Jahres 1938 dem Kinderarzt als »schwer zu behandeln« zugewiesen wurden, berichtet worden. Kinder unter 2 Jahren sind jedoch nicht mitgezählt worden. Auch wenn diese Gruppe schwer zu behandelnder Kinder nicht nur klare Fälle enthält und sie überdies nicht scharf abgegrenzt ist, erscheint es doch wahrscheinlich, dass sich innerhalb derselben die Mehrzahl derjenigen während des Jahres behandelten Kinder befindet, die in die Kategorie der »schwer zu behandelnden« Kinder gehören.

Eine Zusammenstellung der in bezug auf diese Patientengruppe gemachten Beobachtungen dürfte zu folgenden Schlüssen berechtigen: •

1) Unter den schwer zu behandelnden Kindern sind die Knaben in der Majorität. Die Patientenzahl ist indessen zu gering, um generelle Schlüsse hinsichtlich der Verteilung auf die Geschlechter zuzulassen.

2) In dem hier vorliegenden Material über Patienten im Alter von 2—16 Jahren ist die Zahl der schwer zu behandelnden dem Lebensalter nach am grössten in der jüngsten Altersgruppe,

nämlich 11.6 %. Sie sinkt mit steigendem Alter bis einschliesslich 7 Jahren auf 1.1 %, um danach äusserst gering zu werden, nämlich 0.2 %. Die Zahl der Erstsanierungen in der Gruppe der schwer zu Behandelnden betrug 1.6 % aller während der Jahres 1938 abschliessend behandelnten Fälle.

3) Von sämtlichen vom Kinderarzt des Instituts untersuchten Fällen der »schwer zu behandelnden«, nämlich 53, waren 5 psychisch normal, 22 nervös und 26 psychisch defekt. In etwa 9 von 10 Fällen haben also die schwer zu behandelnden Kinder nach dem Befund an Nervosität gelitten bzw. waren sie psychisch defekt.

4) Von den 58 Fällen der Gruppe »schwer zu behandelnde« sind 5 Kinder von der Behandlung ausgeblieben, 2 sind auf Anordnung des Kinderarztes in Anstaltspflege überführt worden. Von den restlichen 51 hat ein Kind auf Anraten des Kinderarztes nur akute Pflege erhalten. Es handelte sich hierbei um einen Fall von Imbecillität. Die übrigen 45 Erstsanierungen, 3 Nachprüfungsanierungen und 2 akute Fälle wurden sämtlich bis zum Abschluss behandelt.

5) Von den 48 Sanierungsfällen sind 36 während der letzten Hälfte der Behandlung, gerechnet nach der Zahl der Besuche, oder öfter, im grossen Behandlungssaal, also ohne Schwierigkeiten, behandelt worden, während die restlichen 12 Fälle, nach der Zahl der Besuche gerechnet, mehr als zur Hälfte im Isolierungsraum behandelt worden sind. Von diesen letzteren stand das jüngste Kind, welches bei Beginn der Behandlung 2 Jahre und 21 Tage alt war, offenbar auf der Grenzlinie zwischen nicht-behandlungsfähigem und behandlungsfähigem Alter. Von den übrigen 11 Fällen waren 5 psychisch defekt, 5 trugen die Diagnose »Nervosität« und nur ein Fall war in psychischer Hinsicht ohne Anmerkung.

6) Behandlungserfolge sind durch viele zusammenwirkende Faktoren erzielt worden: angemessene äussere Verhältnisse, eine Organisation, die soweit als möglich sich bemüht, das Beispiel ausschliesslich in positiver Richtung wirken zu lassen, Wahl von Zahnärzten, die zur Behandlung des einzelnen Falles jeweils am besten geeignet erscheinen, angemessene Behandlungstechnik und psychische Beeinflussung.

7) Im allgemeinen scheint die Lokalanästhesie in der konservierenden Zahnpflege des Milchzahngebisses von geringem Nutzen zu sein. Erst bei der Kavitätspreparation der ersten permanenten

Molaren, im Alter von 6—7 Jahren, beginnt die Lokalanästhesie, ein bedeutungsvolles Hilfsmittel zu sein. Ihre Anwendung steigt mit dem Alter der Patienten und wächst besonders stark im Alter von ungefähr 13 Jahren an.

8) Die Behandlungsmöglichkeit hat sich in der Mehrzahl der Fälle innerhalb der gleichen Behandlungsperiode vergrößert. Da die Zahl der Nachprüfungssanierungen unter den »schwer zu behandelnden« nur einen Bruchteil der Erstsanierungen in der gleichen Gruppe darstellt, so kann man den Schluss ziehen, dass die Behandlungsfähigkeit bei der Nachprüfungssanierung durchgehend grösser ist als während der vorhergehenden Erstsanierung.

9) Die durchschnittliche Anzahl von Besuchen für die Durchführung von Erstsanierungen bei der konservierenden Abteilung betrug bei gleicher Altersverteilung in den Fällen der Gruppe »nicht schwer zu behandelnde« 10,5 und für die »schwer zu behandelnden« 17,9. Das entspricht annähernd 4 Stunden 34 Minuten bzw. 7 Stunden 47 Minuten. Für volle Sanierung kamen für die Gruppe »schwer zu behandelnde« im Durchschnitt hinzu 2,0 Besuche in der zahnchirurgischen Abteilung und 1,3 Besuche in der Röntgenabteilung.

Résumé.

Ce n'est pas possible de fixer des limites distinctes et objectives entre les enfants difficiles à traiter et les enfants faciles à traiter, à cause de la relativité de ces notions et de la subjectivité du jugement.

Un enfant peut être difficile à traiter à cause d'irritation nerveuse ou de défectibilité psychique. Chaque cas reçu à la dentisterie opératoire, dont le traitement a offert, ou aurait probablement offert, de grandes difficultés au point de vue psychologique, a ainsi été remis au pédiatre de l'Institut, M. le docteur C. W. HERLITZ, qui en a écrit un rapport.

Dans cette communication j'ai rendu compte de tous les cas qui en 1938 furent remis au pédiatre comme difficiles à traiter. Je n'y ai pas compté les enfants n'ayant pas 2 ans. Bien que ce groupe d'enfants difficiles à traiter ne contienne pas exclusivement des cas distincts et bien qu'il n'ait pas de limites distinctes, il contient probablement la plupart des cas difficiles entre les enfants traités pendant cette année.

Un résumé des observations faites dans ce groupe de clients doit nous autoriser à faire les conclusions suivantes:

1) La plupart des enfants difficiles à traiter sont des garçons. Le nombre des clients est pourtant trop petit pour rendre possible des conclusions générales concernant la proportion des deux sexes.

2) Parmi les clients âgés de 2—16 ans, le nombre de cas difficiles dans chaque groupe annuel est le plus grand (11.6 %) dans le groupe le plus jeune. Le nombre diminue à l'âge de 2 jusqu'à 7 ans (1.1 %); après cet âge, de tels cas sont très rares (0.2 %). Le nombre de traitements complets difficiles était 1.6 % de tous les cas dont le traitement fut terminé pendant 1938.

3) Parmi tous les cas difficiles, au nombre de 53, qui furent examinés par le pédiatre de l'Institut, 5 étaient psychiquement normaux, 22 étaient nerveux et 26 étaient psychiquement défectibles. En 9 cas de 10, les enfants difficiles à traiter ont donc souffert d'irritation nerveuse ou ils ont été psychiquement défectibles.

4) Parmi les 58 cas difficiles, 5 ne se présentaient pas à l'Institut et 2 furent confiés à la garde d'un asile à la prescription du pédiatre. Parmi les autres 51 cas, 1 ne recevait qu'un traitement aigu au conseil du pédiatre. Ce cas était un imbécile. Le traitement des autres 45 cas de traitement complet primaire, des 3 cas de traitement secondaire et des 2 cas aigus fut terminé.

5) Parmi les 48 cas de traitement complet, 36 cas étaient traités dans la grande salle de traitement, c'est à dire en silence, pendant la dernière moitié des visites, tandis que les autres 12 cas étaient traités dans des chambres d'isolation pendant plus de la moitié des visites. De ce cas, l'enfant le plus jeune, qui avait 2 ans 21 jours au commencement du traitement, était probablement à la limite d'un âge accessible à traitement et un âge qui ne l'est pas. Parmi les autres 11 cas, 5 étaient psychiquement défectibles, 5 recevaient un diagnostic d'irritation nerveuse et 1 seulement était psychiquement normal.

6) On a atteint des résultats de traitement par le concours de plusieurs facteurs: des conditions extérieures opportunes, une organisation qui cherche, autant que possible, à faire opérer l'exemple dans une direction positive, le choix du dentiste qui paraît le mieux à traiter le cas individuel, une propre technique de traitement et une influence psychique favorable.

7) Ordinairement, une anesthésie locale ne paraît pas être utile à un traitement dentaire pour conserver les dents temporaires.

Seulement quand la préparation des cavités commence dans les molaires de 6 ans, en âge de 6 à 7 ans, l'anesthésie locale devient un expédient important. Son utilité s'augmente avec l'âge du client, en particulier environ l'âge de 13 ans.

8) L'accessibilité à traitement a été augmentée, dans la plupart des cas, dans la même période. Comme le nombre des traitements secondaires difficiles en fait qu'une fraction du nombre des traitements primaires complets difficiles, nous pouvons tirer la conclusion que l'accessibilité à traitement est, dans la plupart des cas, plus grande à l'occasion d'un traitement secondaire qu'à l'occasion du traitement complet primaire précédent.

9) Le nombre des visites au service de l'obturation dentaire pour la termination d'un traitement complet, était 10.5 en moyenne, avec la même distribution d'âge que dans les cas difficiles; pour les cas difficiles ce nombre fut 17.9. Cela correspond à environ 4 heures 34 minutes et 7 heures 47 minutes. Pour une sanitation complète il faut ajouter, pour le groupe des cas difficiles, 2.0 visites en moyenne au service chirurgical dentaire et 1.3 visites au service de radiographie.

Address:

Eastmaninstitutet,

Stockholm,

Sweden.