THE DIAGNOSIS AND PRIMARY CARE OF ACCIDENTS AND EMERGENCIES IN CHILDREN

A MANUAL FOR THE CASUALTY OFFICER AND THE FAMILY DOCTOR

Cynthia M. Illingworth

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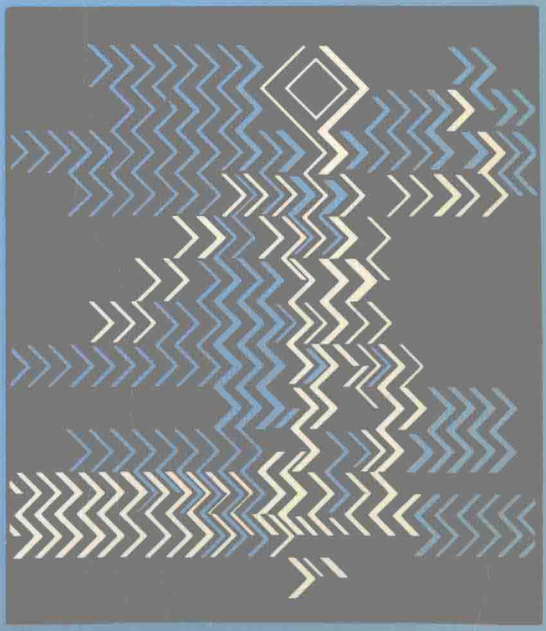

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A Manual for the Casualty Officer and the Family Doctor

Cynthia M. Illingworth F.R.C.P.
Consultant in Paediatric Accident and Emergency
The Children's Hospital
Sheffield

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Preface

This book, based on long practical experience of accident and emergency work in a busy teaching hospital, is intended primarily for 'Casualty Officers': but much of what is said applies equally well to the work of the family doctor. It is definitely not intended to be a comprehensive book on paediatric emergencies, many of which more concern intensive care units or the hospital ward. It is difficult or impossible adequately to draw the line between the responsibility of the Accident and Emergency doctor, and that of the Intensive Care Unit: the 'flying squad' from this unit is immediately available to come to the Accident and Emergency Department. But I have tried to delineate the responsibility of the doctor in 'Casualty'. For the family doctor, who is more responsible for primary care, much of what I have written is highly relevant. I have tried throughout to say what the doctor should not attempt to treat himself, and to name those conditions for which he must seek expert advice.

I have tried to make this book practical and explicit. I have always believed that in the case of disease, it is inadequate merely to describe the clinical picture of a disease: one should draw attention to the important variations from the usual clinical picture. For instance, it is not enough to describe the clinical picture of appendicitis or intussusception in a child; that can be read in innumerable books: it is of equal or greater importance to emphasise the variations—the occurrence, for instance, of diarrhoea in either condition, instead of the expected constipation, and in the case of intussusception the occasional absence of any pain at all.

In referring to the doctor working in an accident and emergency department, I have sometimes referred to him as the 'Casualty doctor' and used the old term 'Casualty Department'.

The experience to be gained in a busy Casualty Department, in which a consultant is in full-time charge and responsible for teaching those who are more junior, is of immense value to a doctor whose aim is to specialise in General Practice, Community or Hospital Paediatrics.

I have tried to avoid describing in detail conditions in which the management is precisely the same as in adults; inevitably there must be some degree of overlap, but in children's accident and emergency

work there is much less emphasis on serious trauma and much more on medical emergencies, social emergencies and the whole range of things which constitute an 'emergency' in the eyes of the parents of a young child.

I am indebted to my husband for his advice; to Mrs Valerie Sewell and Mrs Sandra Parfitt for typing the script so competently; to Mr Thorne (of 3M) for allowing me to adapt some sketches showing the method of applying Steristrip, and to the Photographic Department of the United Sheffield Hospitals for their help.

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Part 1

General principles
- The challenge
- Overconfidence
- Notekeeping
- Attitudes
- History-taking
- Examination
- Special investigations
- Interpretation
- Treatment
- Prophylactic antibiotics
- Immunisation
- Local anaesthesia

Non-accidental injury
Children brought in dead or dying
If you have to go to court

The challenge of casualty

A doctor working in an Accident and Emergency Department is presented with a tremendous challenge. He is faced with a constantly varying series of problems concerning every part of the body and almost every speciality. Though much of his work is with trivial conditions which, in less developed countries, would never be seen by a doctor, he never knows when interspersed with trivialities there will be a major problem demanding all his skill and judgement. He feels that he is expected to know everything, and that if anything goes wrong it is he who will get the blame. At times he will be far too busy, and overwhelmed with work which is often highly exhausting—and it is when he is tired that mistakes are liable to be made; when he is hurried and pressed he forgets to record his findings in the notes, and the omission may prove to be all-important. He has constantly to use clinical judgement, but often the doctor is a junior lacking the experience necessary for good judgement. It is partly for this reason that the medical defence organisations frown on the employment of preregistration House Officers in Casualty, except when they are under the immediate supervision of a more senior doctor. However busy he is, he can never refuse to see a patient, for what may superficially appear to be trivial may on examination prove to be more serious.

For a doctor who is going to enter general practice, or aspires to be a paediatrician, a general physician, or a specialist in any of many other subjects, there is no better place to acquire experience than a busy Accident and Emergency Department.

It is hoped that many will be so interested in the work that they will aim at making their future career in this area.

There is no place for overconfidence

A wise doctor never hesitates to seek advice from others, and in particular to use whatever expertise is available to him. It is vital that a doctor should know when he does not know. Innumerable mistakes are made because readily available expert advice was not sought. In an Accident and Emergency Department an experienced Sister or Staff Nurse can provide invaluable advice, if asked; and no doctor should feel that he is 'losing face' if he asks for her opinion.

In fact there is hardly a better way for the doctor to secure friendly co-operation than to make the nursing staff feel that their special experience is recognised and that they should not hesitate to express their opinion about diagnosis and management, whether that opinion is asked for or not.

In a hospital the doctor has expert advice readily available: he should use it. He should seek advice when faced with the diagnosis of a crying baby; of acute abdominal pain; the management of dislocations; any but the most trivial fractures, burns or septic fingers; he should seek help when there is difficulty in removing a foreign body from the eye, nose, ear or other orifice; and he should not attempt to remove any but the most readily accessible foreign body from the hand, foot or buttock. He should know that certain symptoms, above all others, are of particular importance in children and that failure to recognise these, with resultant failure to seek help from an expert, and particularly failure to follow up a child with one of these symptoms, is a major cause of medico-legal problems concerning children. An analysis of the mismanagement of childhood symptoms which led to claims to a medical defence organisation showed that the most important conditions leading to litigation were as follows: diarrhoea, vomiting, abdominal pains, headache, convulsions and stridor. All of these will be discussed in the pages which follow.

DO NOT BE OVERCONFIDENT. DO SEE THE CHILD AGAIN, UNLESS THAT IS OBVIOUSLY UNNECESSARY—IN AN HOUR OR TWO, OR NEXT DAY, OR AT A LONGER INTERVAL IF INDICATED.

IT WOULD CERTAINLY NOT BE SENSIBLE TO SEE A CHILD ONLY ONCE FOR STRIDOR, VOMITING, DIARRHOEA OR ANY OF THE ABOVE SYMPTOMS, AND LEAVE TO THE PARENTS THE RESPONSIBILITY OF SEEING YOU AGAIN IF THE CHILD IS UNWELL.

If anything goes wrong, the parents in such circumstances may deny that they were told to come back if the child is unwell; in any case it is unfair to put the responsibility on the parents.

If a medico-legal problem results, the parents' statement is likely to be believed, *unless a note has been made of the instruction given.*

If you see a child in the hospital, it is your responsibility to use your judgement with regard to communicating with the family doctor, by letter, or if necessary by telephone. It is the duty of the hospital to provide the necessary secretarial help.

Note keeping

Good note keeping is essential, and they should be signed; the trouble is that pressure of work may make it difficult. Medical defence organisations have to pay out scores of thousands of pounds because poor note keeping makes it impossible to provide a proper defence against such claims. When a senior person is asked for his opinion, it is desirable to ask him to write his opinion in the notes and to sign it.

It is important that the Casualty notes should be kept together, and not scattered through the hospital with notes made in other departments. It is wise to arrange for a copy of the Casualty notes to be incorporated with other hospital records, for otherwise the important Casualty notes may be lost.

Attitudes to parents, children and others

It is always important but sometimes difficult to be patient and courteous to parents, particularly when one is hard-pressed, overloaded with work, irritated by them or, in a case of child abuse, angered by what they have done. When parents are in a state of panic after an accident to their child (whether it appears trivial or not to the doctor), they may be irrational, impatient, aggressive and thoroughly difficult; they may feel guilty because the accident has happened, and overreact by showing excessive anxiety. If a child is badly behaved, dirty, aggressive and displaying fear and panic unsuitable for his age, it is not easy for the doctor to remain patient and tolerant with him.

A good mother *is* anxious: her anxieties should always be treated seriously.

A mother who *insists* that there is something wrong with her child, even though the doctor can find nothing, is almost certain to be right. *It is always wrong to tell a mother that she is just overanxious, or fussing over nothing.* It is bound to antagonise her, and in any case it is usually unjustified. A common cause of litigation is the antagonization of parents, and their feeling that they have not been kept informed, that they have been treated without due consideration for their feelings.

It must be particularly worrying for immigrant parents who cannot speak English, when they bring their child to the doctor and are unable to tell him what they fear.

History-taking

The first essential in history-taking is that each, doctor and parent or child, should understand what the other means. In paediatrics one comes to rely so much on what the parents say that one tends to forget to take the history from the child. It often happens that the child, especially if the mother is not present, reveals the true diagnosis, which the mother's history would fail to give. It is often wise to see the mother without the child, and vice versa. One lets the mother give her story, then goes back on everything that she has said to make sure that one has obtained the correct history, and for every symptom determines *exactly when it was first noticed.* One must always ask 'When was the child last perfectly well?' to get a base-line for the present symptoms whether of illness, poisoning or possible trauma. In the case of accidents one asks the exact *nature* of the accident, the exact *time* at which it happened, and exactly *how* it happened. This is particularly important in the case of poisoning. History-taking must be precise and as accurate as it can be. There is no place for the words 'recently' and 'frequently' without definition. If a child is said to have a raised temperature, one asks whether it was taken and by whom, and what it was. If there is said to be weight loss, one asks for the figures—and asks whether the child was clothed or not when weighed. If there is said to have been a discharge from the ears, one needs to know what the discharge was: it is usually wax. One needs to know whether there has been any relevant (especially similar) illness in the family: this is most important in the case of possible infections.

One needs to know what *drugs* the child has received, *including those purchased without prescription from the chemist's shop.* Parents commonly do not regard aspirin as a medicine or drug, and the fact that the child has been given aspirins may be important. The great frequency of side effects of drugs must always be remembered. In his book on *Common Symptoms of Disease in Children*, Illingworth (1976) found that of the 150 common symptoms described in the book, at least 135 could be side effects of drugs. It is also useful to know what drugs the mother and father are taking: tranquillising and similar drugs may cloud a parent's consciousness and may be the indirect cause of a child taking some poison or becoming involved in an accident.

Examination

Every case presenting to a Casualty department must be seen by a doctor. One should not rely on the judgement of a nurse. For instance, an apparently trivial cut on a finger may involve a tendon, or there may be a foreign body, such as glass, in the wound. In any case of other than obviously localised trauma, the whole child must be examined, and examined completely undressed.

The small child is likely to be afraid and anxious. He must not be allowed to see other injured children or anything unpleasant to alarm him. By suitable conversation with him much of his fear can be allayed. Talk to him and keep talking to him.

The first part of the examination is made on his mother's knee if he is a small child, or at least with his mother holding him. One notes the state of nutrition, height, hydration, and any rashes, blemishes, bruises or scars, and *writes them in the notes.*

A toddler commonly objects strongly to lying down, in which case the abdomen can be examined when he is kneeling or standing. A toddler will often stop crying when his vest is put on, and the rest of the examination can then be completed. When examining the abdomen the well-trained doctor does not keep his eyes on the umbilicus but on the child's face, watching to determine whether there is tenderness. One does not ask him if it hurts, suggesting that it does; one watches him. When examining for enlargement of the spleen, the head should rest on a low pillow; if the head is raised farther, the tip of an enlarged spleen will be missed.

When there are abdominal symptoms, one must examine the hernial orifices and the genitalia. It is easy to miss a torsion of the testis if the pants are left on.

Areas of discomfort are left to the last: if he limps on the right leg, one examines the other leg first. If he is just 'not very well', the examination is not complete unless his skin is thoroughly inspected for a rash or petechiae, and the buccal mucosa for Koplik's spots. The lower eyelid is examined for petechial haemorrhages. The palms of the hand and the sole of the foot are examined for the vesicular rash of 'hand, foot and mouth' disease. The mouth is also examined for herpes stomatitis.

If after an accident there is an obvious swelling or deformity of a limb, one avoids unnecessary examination if an x-ray is obviously necessary, but remember the importance of checking the radial pulse in elbow injuries. In order to assess the range of movement, one

watches him playing with a toy, or gets him to follow a torch.

The examination of the mouth for tonsillitis or thrush is left until last. The older child may prefer to depress his tongue with his own finger. Neck stiffness is tested for when he is sitting up, if possible, watching his face for expression of pain when one is flexing the neck.

If a rectal examination is necessary in a small child, one uses the little finger placing it *gently* against the anus and *gently* increasing the pressure until it can be inserted without difficulty, *talking to the child all the time as it is done*. The thermometer is placed in his groin or axilla, and is left for the *full three minutes*, even if it is said to be a half-minute thermometer: rectal temperatures are disliked by the child, carry a small risk, and are better avoided.

Special investigations

The doctor's surgery or the Accident and Emergency Department is no place for complex investigations. The doctor has to decide at what stage to refer a child to an out-patient clinic or for admission.

With regard to x-ray examinations, the radiologist must be given the necessary information, e.g. points of maximum tenderness or swelling. There must be a system whereby the x-ray report is seen by the doctor. In medico-legal cases the casualty doctor's interpretation of an x-ray carries little weight in comparison with the radiologist's report. The Defence organisations have to pay numerous claims because a radiologist's (or laboratory) report was not seen by the doctor who asked for the investigations. X-rays should only be asked for at night if it is impossible without an x-ray to decide about appropriate treatment, and if it cannot wait until the morning. If it can wait without harm to the patient, it is wise for medico-legal reasons to make the appropriate entry in the notes.

With regard to other laboratory investigations, those most likely to be requested, and most likely to be useful, are urine examinations for albumin, sugar, microscopy and culture.

It is useless asking the parent to 'bring in a specimen of urine', urine must be examined within a few minutes of being passed, and preferably a mid-stream specimen; if this is impossible, a dip-slide or uripot is a satisfactory alternative. *Remember that a urinary tract infection should be proved before treatment is given*, and the child should be referred to the paediatrician for investigation.

If salicylate poisoning is suspected, the phenistix test will help.

The E.S.R. is done as a non-specific test which helps one (in part

only) to eliminate an infective process or certain organic diseases. Other investigations are mainly the haemoglobin, red cell and white cell count, and where relevant, the platelet count; simple investigations of the blood clotting mechanism; examinations for sickling where relevant; and blood sugar, blood urea and serum electrolytes.

When a child urgently requires fluid, blood is taken for electrolytes and culture and a drip started, based on a judicious guess. When an ill child is to be admitted, it may save time if blood for the most urgent investigations, such as blood sugar, is taken in casualty.

When a child comes to casualty and *is known to have a bleeding disorder, such as haemophilia, Christmas disease or Von Willebrand's disease, he should not be sent home without consulting the haematologist*. The child should have with him a green card, stating the diagnosis.

Interpretation

Any doctor is more likely to make the correct diagnosis if he thinks of the common conditions before the rare ones, but he has to be on his guard against being misled by the obvious. For instance, when a child has a convulsion following a head injury, one has to be sure that it was not a convulsion which caused the fall, and the head injury.

It is common in a Casualty Department to see a child who is poorly following a head injury, only to find that he is poorly, not because of the head injury, but because he has otitis media or a urinary tract infection. A child may be presented as a possible case of poisoning, whereas careful history taking and examination reveal a different cause for his symptoms, e.g. an intussusception. The presenting symptoms as given by the parents may be far removed from the real reasons for the parents' visit. They may complain that he has abdominal pain (but more frequently a wide variety of symptoms, none of them suggesting organic disease) when in fact they are afraid that the child may have the same condition as their neighbour's child, namely leukaemia—but they are afraid to voice their real fears.

A normal child was brought with a query as to whether he was 'brain-damaged' because the parents had heard on television that if a baby was cleansed with hexachlorophene it made him mentally defective; only direct questioning as to what they were really afraid of revealed the true cause of their anxiety.

An excessive display of parental anxiety may be an indication of