

Use of a contraindications checklist by practice nurses performing immunizations at a well child clinic

ASHLEY LISTON

CAROLYN DAWSON

JEAN STAPLETON

JEN STEPHENSON

SUMMARY. At the inception of a general practice well child clinic, a checklist card was introduced into the clinic notes to summarize specific and relative contraindications to immunizations. This card was used by the practice nurses as they ran the immunization procedures during the clinic. A failure on the checklist led to a consultation with the clinic doctor who decided whether to proceed with the immunization. Of 155 immunizations given during the six-month period, only 23 (15%) failed the checklist and required the child to be assessed by the clinic doctor. Of these, nine (39%) were for simple upper respiratory tract infection. All the children were deemed fit to receive immunization. Only one child was found to have a specific contraindication to pertussis. The checklist cards allowed the smooth operation of the immunization procedures by practice nurses who were able to check comprehensively whether there were any contraindications and whether immunizations were being inappropriately refused.

Introduction

IMMUNIZATION remains the most important primary preventive measure in the field of child surveillance. Unfortunately, the primary care of children is still divided between general practitioners, who provide a treatment service and clinical medical officers of child health, who provide a surveillance, prevention and health education service. General practitioners are now performing an increasing amount of preventive work, recognizing the ideal opportunity that general practice presents for combining preventive and therapeutic care.¹⁻⁴

The role of the practice nurse varies from practice to practice, despite some attempts to define skills that might be expected of the nurse,⁵ with appropriate training.⁶ In the field of child immunization the variation is marked. In some practices and most local authority clinics immunizations are given exclusively by doctors, while in a few cases nurses are solely responsible for immunization procedures.⁷ The majority of practices involve a consultation with the doctor, with a nurse giving the injection.

There are two main sources of anxiety with regard to the involvement of practice nurses in immunization. The first is the risk of anaphylactic reaction following injection, and the ability of the nurse to cope with such a collapse. However, evidence

suggests that this is not a reasonable fear as it is an infrequent reaction⁸ and nurses are able to cope.⁹ The second source of anxiety concerns checking that no contraindication exists to the immunization, with the potentially serious medical and medico-legal consequences of inappropriate vaccination.

This paper describes a system designed to allow practice nurses to perform all child immunizations at a child clinic, using a checklist card to identify relative and specific contraindications.

Method

The study practice is a seven man urban practice in Tyneside with a list of 15 000 patients, mainly in social classes 3, 4 and 5. At the inception of a well child clinic in March 1987 it was decided that the practice nurses should be fully involved with the immunization procedures. A card is incorporated into the child health notes of all new babies born into the practice (Figure 1). At the six week check, the clinic doctor identifies any specific contraindications, in particular a family history of fits or neurological problems, or any serious neonatal disturbance. This is then noted on the card.

The Gateshead health authority's computer recall system sends out appointments to the parents at the appropriate time. On

	Triple			Measles	Pre-school booster
	1	2	3		
Fits/seizures/epilepsy/convulsions, brain damage or mental retardation					
Any problems with previous injections					
Any present illness					
Any chronic illness					
Leukaemia/Hodgkin's disease/lymphoma/immuno or radiotherapy					
Allergies (antibiotics, eggs or rabbits)					
<i>Any household members not received full polio immunization</i>					
Doctors comments:					

Figure 1. Immunization checklist card used in the study (triple = diphtheria, pertussis and tetanus). Items shown in italics have now been deleted.

A. Liston, MRCP, general practitioner, C. Dawson, J. Stapleton and J. Stephenson, practice nurses, Birtley, Co. Durham.

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arrival at the clinic, the baby is weighed by the health visitor, and if there are no particular problems that either the parents or health visitor wish to discuss with the clinic doctor, the family go straight to the practice nurse. She works through the checklist, and unless a problem is identified, the immunization is given.

A large number of mothers, or accompanying relatives, are not fully immunized against poliomyelitis. The nurse, therefore, gives polio immunization and boosters to mothers of babies receiving polio immunization who had not received either their basic course of polio or their school-leaving booster. If the mothers are unsure of these facts they receive immunization if no booster has been received within the last 10 years.

A number of babies attending for immunization have either registered after their six week check or have had a six week check at the local authority clinic. These babies are seen by the clinic doctor for a preliminary check before being seen by the practice nurse.

The nurse records the child's name, the immunization given, whether there was any specific contraindication noted by the doctor, any failure from the checklist card, and whether there was any untoward outcome following the immunization. These records were examined over a six-month period

Results

A total of 155 immunizations were performed during the study with 81% being first or second triple vaccines with polio (Table 1). Twenty one babies were seen by the clinic doctor at the time of immunization as they had not attended the practice for their six week check. Of the 155 immunizations only 23 (15%) failed the checklist, which required the babies to be seen by the doctor; the majority of them had simple upper respiratory tract infections (Table 2). None of these problems constituted a contraindication, and all the children received immunization. Only

Table 1. Immunizations performed during the study period.

	No. (%) of immunizations
Triple/polio 1	71 (46)
Triple/polio 2	55 (35)
Triple/polio 3	11 (7)
Measles	11 (7)
Pre-school booster	7 (5)
Total	155 (100)

Triple = diphtheria, pertussis and tetanus (diphtheria and tetanus only in three cases).

Table 2. Reasons for immunizations failing the checklist.

	No. of immunizations (% of all failures)
Simple URTI	9 (39)
Non-specific rash	3 (13)
Nappy rash	2 (9)
Possible previous reaction	2 (9)
Recent otitis media	2 (9)
Possible egg allergy	1 (4)
Eczema	1 (4)
Constipation	1 (4)
Postoperative hernia repair	1 (4)
Possible maternal fit	1 (4)
Total	23 (100)

URTI = upper respiratory tract infection.

one child had a specific contraindication noted against pertussis, for suspected neurological damage related to extreme prematurity and possible intracerebral haemorrhage. Three parents chose not to have their child vaccinated against pertussis for personal reasons, despite counselling by the professionals involved.

Of the 159 accompanying relatives, 43% were found to have polio booster indicated; 93% of these relatives were attending for the child's first triple vaccine with polio.

Discussion

The advantages of delegating immunization in the child clinic to the practice nurse are numerous. The doctor is able to concentrate on developmental checks, discussion of problems relating to the child, and follow up of problems previously identified, rather than performing activities that can be done as well, if not better, by trained nurses. In this study the nurses were able to check comprehensively for any contraindications using a set protocol that avoided the risk of inappropriate refusal to immunize, or confusion about contraindications.^{10,11} Analysis of primary care practices suggests that a more appropriate assignment of work between doctors and nurses might increase job satisfaction for both professions, as well as increasing the number of patients for whom care can be provided.¹²⁻¹⁵ Certainly in this clinic, the nurses expressed an increased satisfaction in their work from their professional independence within the team setting.

The delegation of work to nurses raises the question of the responsibility and accountability for this work. The Department of Health and Social Security circular, *The extending role of the clinical nurse*,¹⁶ clarifies this issue from the legal standpoint, emphasizing the need for specific and adequate training for performance of the new task. The delegating doctor nevertheless remains responsible for the patient and for the overall management of treatment, and must be assured of the competence of the nurse concerned. An earlier DHSS circular, *Vaccination and immunisation, involvement of nursing staff*,¹⁷ covers some of the important matters that should be included in clearly defined policies for vaccination programmes, allowing for safe and smooth operation by nurses. It stresses the need for ensuring that vaccinations are given only to those for whom they are appropriate, by: confirming that the individual falls into a group for which the vaccination is indicated; checking that no contraindication exists; obtaining consent; and referring back to the doctor in any case of doubt.

In this study the parents seemed to accept the new system quickly, generally enjoying a much shorter wait for the immunizations. The local authority clinic covering the area continues to provide immunizations given by the clinic doctor, and some mothers, used to this system, were confused to discover a nurse giving immunizations and this required careful explanation. As Marsh points out, 'explanation before innovation should be a maxim ... the patient cannot prescribe his own primary health care service, but he is entitled to be informed and to have explained to him the nature and reasons for any changes which will affect him'.¹⁸ In this study the views and feelings of the parents about immunizations given by nurses were not explored, but should be investigated, as compliance with immunizations will be affected if there is a general feeling of discontent among parents.

Immunizing parents against poliomyelitis at the time of the child's immunization is perhaps a controversial matter. The 1982 DHSS guidelines¹⁹ advise that unvaccinated parents should receive oral vaccine at the same time as the first dose of oral vaccine given to the baby. Evidence suggests that not only non-immune parents but also unvaccinated household contacts of children receiving primary immunization are at risk,²⁰ and also

that the full course of polio immunization, including the booster dose, is required to produce adequate immunity.²¹ It is difficult to immunize both parents, let alone household contacts, as only one parent usually presents with the child for vaccination. The 1988 DHSS guidelines on immunization²² now clarify this issue, suggesting that the risk is insufficient to warrant a change from their policy of advising contacts of recently vaccinated babies of the need for strict personal hygiene, particularly for washing their hands after changing the baby's nappies. Parental polio status has thus been omitted from the checklist card.

The new DHSS guidelines²² have also helped to clarify the contraindications to pertussis immunization, that is acute illness and previous local or general reactions, with specific advice as to what these actually constitute. The fact that stable neurological conditions, neonatal cerebral damage, convulsions and family history of epilepsy do not constitute specific contraindications has not led to a change in the checklist. The common need for clarification and explanation to parents on this subject, and the DHSS advice that 'risk and benefits should be assessed in each of these cases',²² suggests that the clinic doctor should be involved in counselling in these cases.

The checklist question on rabbit allergy has now been omitted, as the rubella vaccine in the UK is now grown in human diploid cells rather than rabbit kidney cells.

The contents of the checklist card attempt to cover the important areas of contraindication to vaccination, while avoiding a prolonged inquisition. Some ambiguity seems likely to occur in the responses, and thus the checklist covered more than was felt essential, giving a greater sense of security for the nurses, and also for the doctors who ultimately take responsibility for this procedure. Space for doctors' comments on the checklist allowed flexibility so that 'uncle's fits' or 'amoxicillin allergy' could be stated as non-contraindications. All those involved in running the scheme had some input into its design, and the clinic doctors' interpretation of the DHSS guidelines and the experience and training of the clinic nurses were taken into account. These factors are likely to vary from practice to practice and there must be discussion with the local health authority clinics and local practices to achieve consensus. The need for consensus in child health care work has been explored in other areas, such as paediatric surveillance,²³ and immunization is an equally important subject for agreement between the various primary care teams.

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Address for correspondence

Dr A.M. Liston, Birtley Medical Group Centre, Durham Road, Birtley, Co. Durham DH3 2QT.

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