presence of infection. Application is again through-and-through the chest wall with a large malleable electrode placed posteriorly in the upper thoracic region and a medium malleable electrode placed anteriorly over the sternum and pectoral region. Dosage is mild thermic for fifteen to twenty minutes.

SWD applied through the chest unequivocally gives the patient a sense of well-being — perhaps on the deus ex machina principle. It may be that the effect is to relieve bronchospasm, not only to induce more general relaxation, and it may be that mucus is rendered less viscid: the attribute of SWD of effecting vaso-dilatation may serve a purpose when used across the lungs or it may serve only to increase the ventilation: perfusion inequality. This might prove an interesting field for research.

There should be no need to stress that other procedures, such as vibrations and breathing exercises, should always accompany the treatments by shortwave diathermy.

THE CRITICAL INCIDENT TECHNIQUE IN PHYSIOTHERAPY EDUCATION

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Report of a pilot study undertaken to determine the behaviour of an effective physiotherapist. The critical incident technique was used to collect data from 30 practising physiotherapists and 300 separate incidents of effective and ineffective behaviour were identified. On the basis of this study, the desirability of objectively identifying curriculum content in physiotherapy education has been established.

One of the problems facing physiotherapy educators today is what should be taught and what should be deleted from the rapidly expanding undergraduate curriculum. We must establish whether the present syllabus is meeting the needs of the society in which the physiotherapist will practice and ensure that the needs of the students are also being met.

Of the many studies that have been done by the various professions, one of the most promising methods of determining curriculum content appears to be the critical incident technique.

By incident is meant a unit of observable human activity which is sufficiently complete in itself to allow inferences to be made about the person performing the act. A critical incident is one which leaves the reader little doubt regarding its effectiveness or ineffectiveness.

The critical incident technique was evolved by Hanagan (1954) and he has used it as a basis for studies in many varied fields. Jensen (1960) and Barham (1963) have applied the technique to different aspects of Nursing and a large study in Orthopaedic training was described by Miller (1968). In these studies, practitioners in the various professions were asked to describe a situation, record what action was taken by the person observed and what the result of the action was. Once the incidents had been collected, it was possible to identify the key actions of the profession being studied.

A pilot study was carried out by the Physiotherapy Department of the University of the Witwatersrand to determine whether the critical incident technique would be a practicable method of establishing what behaviours characterise an effective physiotherapist.

METHOD

Six physiotherapy colleagues were chosen to carry out the study and each was asked to approach five senior physiotherapists representing hospital and private practitioners, as well as those from special institutions.

Six physiotherapy colleagues were chosen to carry out the study and each was asked to approach five senior physiotherapists representing hospital and private practitioners, as well as those from special institutions.

Of the 300 forms given out, 180 were returned in time for the study which was limited to an initial six week period. As several of the forms had more than one reported incident, 300 examples were collected which fell under two or more of the main areas. Each incident was extracted from the form and recorded on a separate card.

The first analysis of the data was done in June, 1979, when 194 incidents were identified. In July, a further 106 incidents were categorised and of these only one was found to be a new behaviour (Table 1). Each main area was subdivided according to the incidents, and as new behaviours were received, new sub-areas were formed, e.g. A-1-Relationship with patient (a) Listens to patient, (b) Explains to patient, (c) Gains patient's co-operation etc.

ANALYSIS OF DATA

The validity of the interpretation and classification of the incidents was checked by submitting a random sample of the cards to two of the co-workers. These workers then sorted out the cards under the various areas and it was found that there was a ninety-five per cent agreement in their classification as compared with the therapists who recorded them initially.

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TABLE I
CLASSIFICATION OF INCIDENTS

<table>
<thead>
<tr>
<th>Area</th>
<th>June 1979</th>
<th>July 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Interpersonal</td>
<td>46</td>
<td>33</td>
</tr>
<tr>
<td>I Relationship with patient</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>II Relationship with family</td>
<td>79</td>
<td>31</td>
</tr>
<tr>
<td>III Relationship with health team</td>
<td>17</td>
<td>41</td>
</tr>
<tr>
<td>B Assessment</td>
<td>41</td>
<td>21 +1</td>
</tr>
<tr>
<td>C Treatment</td>
<td>59</td>
<td>27</td>
</tr>
<tr>
<td>new incident</td>
<td>194</td>
<td>105</td>
</tr>
</tbody>
</table>

**EFFECTIVE/INEFFECTIVE**

From your experience, think of a recent situation in which you observed or you did something which illustrated an adequate/inadequate* performance by a physiotherapist.

1. Briefly describe the background to the incident.
2. How experienced was the physiotherapist? Years since qualification.
3. How experienced was the observer?
4. Describe exactly what the physiotherapist did.
5. What more effective/ineffective* behaviour might be expected in a similar situation?
6. Where was the observation made? Please tick the appropriate block.
   - General Hospital
   - Special School
   - Private Practice
   - Special Institution
   - Other
   * Please delete the one which is not appropriate.

To mine, this reasonably high correlation led me to assume that a panel of three judges would be sufficient to sort out and categorise the incidents in the main study to be done in 1980. In order to check the reliability of the classification system, I re-classified a list of effective and ineffective behaviours extracted, only one new incident which required an additional sub-area was found.

**DISCUSSION**

From the favourable results of the pilot study, a full study is being planned in which physiotherapists from different parts of the country will take part. Additional information will be gathered concerning the institution or practice in which the observation was made and the length of time since qualification of the observer.

A random sample of about 200 physiotherapists will be approached, the number representing approximately 1/5 of the total number of practising physiotherapists in South Africa. These will be drawn from different areas to ensure that all fields in which a physiotherapist practises, are covered.

Incidents will be collected and classified until no more than one new behaviour is reported in every 100 incidents examined, in order that a sufficiently large and representative sample of behaviours is obtained.

Once all the incidents have been collected and classified, a list of effective and ineffective behaviours will be drawn up.

From these specific observable behaviours, it is intended that a full set of learning objectives will be established.

By establishing the kind of behaviour a student should achieve to demonstrate professional competency, a curriculum can be planned which will meet society's needs. This will ensure that the curriculum which has evolved somewhat haphazardly over the years, is based on a more secure and scientific foundation.

The initial classification of 194 incidents was done in June, from the first 106 returned forms. In July a further 74 forms were analysed and from the 105 incidents extracted, only one new incident which required an additional sub-area was found.

**References**


**TREATMENT NOTE:**

**STRAIGHT LEG RAISE AS A TREATMENT TECHNIQUE**

LORNA NELSON*

A healthy fit 19 year old amateur cyclist presented with low back and leg pain, which occurred only during cycle training. A diagnosis of bilateral sciatica with general hypomobility was made.

In March 1978, the patient kicked a ball and his leg became "lame" for a short time. He had complete recovery in two months. The first nine months of 1979 were spent cycling in Europe. In August 1979 he lifted a heavy weight, resulting in severe pain in both legs down to his heels that night. This recovered the next day. In that month he also had a severe fall off his bicycle. During subsequent chiropractic treatment in Belgium, the patient was told that he had Scheuermann's disease. His back was manipulated, after which he still had pain in his legs but only on cycling. In October 1979 he had chiropractic treatment in South Africa. He was given massage and "pressing on the spine", with relief for two weeks, after which he developed cramps in the legs. The patient presented at Back Clinic in March 1980 with low back pain and "lameness" of his legs. He reported neither leg pain nor leg cramps. Because of his symptoms his cycle training had been reduced from 120 km to only 50 km a day.

On subjective examination, the patient reported pain of sciatic and low back distribution, which was referred...