KEY WORDS
Consumer Satisfaction
Hand Splints
Patient Compliance

ABSTRACT Hand splints are used by occupational therapists as a method of reducing the increased muscle tone of the upper extremity following stroke. However, the paucity of research and inconsistent findings examining the effects of splinting on spasticity has resulted in this technique being a controversial one. Many parameters of splinting need to be investigated, such as the type of splint, the duration of use, and wearing schedules. This feasibility study was conducted to pretest instruments and procedures investigating the effects of a finger spreader on the spastic musculature of the wrist and to examine trends in spasticity associated with variables, including a splint wearing schedule, expectations and satisfaction with the splint, and compliance.

Nine subjects were randomly assigned to three groups defined by wearing schedules of twenty-two, twelve, and six hours per day. The greatest change in the level of spasticity was noted in the group wearing the splint for twenty-two hours. However, this trend was not statistically significant. A statistically significant relationship was found between expectations of the splint and compliance to the wearing schedule. Satisfaction with the splint outcome and therapeutic interaction was also observed to have a statistically significant relationship with compliance. This indicates that the procedures and measures designed for this study are worth pursuing in future research.

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Stroke is the third most common cause of death, a leading cause of hospitalization and a major cause of serious physical disability (Mulley, 1985). The debilitating effects of stroke become more marked with the additional presence of spasticity, a common motor deficit characterized by hyperreflexia, hypertonia and clonus (Chapman & Wiesendanger, 1982). In the upper extremity, spasticity can limit functional movement, cause severe flexion, deformities of the fingers and thumb, and impede adequate cleaning of the hand (Bloch & Evans, 1977; McCollough, 1978). Intervention to decrease spasticity has included pharmacological, surgical (Bishop, 1977; Dimitrijevic & Sherwood, 1980), and therapeutic techniques (Bobath, 1981; Brunnstrom, 1970; Knott & Voss, 1956; Rood, 1954).

Spasticity

Spasticity has been defined as "...a state of increased muscular tone with exaggeration of the tendon reflexes" (Basmajian, et al, 1982, p. 1382); this common phenomenon is experienced by those who have sustained cerebrovascular accidents (C.V.A.), head injuries, spinal cord injuries or have cerebral palsy (Bishop, 1977).

Immediately following a C.V.A, decreased muscle tone is evident, as well as the absence of superficial and deep reflexes (Ashby & Verrier, 1976). Over a period of weeks, hyperreflexia and hypertonia may begin to develop (Chapman & Wiesendanger, 1982; Walton, 1977); these in turn produce a typical posture of the affected extremities. In the upper extremity, characteristic patterns include retraction, depression and internal rotation of the affected shoulder, flexion and pronation of the forearm, wrist flexion, thumb and finger adduction and flexion (Johnstone, 1983).

Splinting

One of the techniques introduced to reduce muscle tone of the upper extremity is the use of hand splints. As a non-invasive and inexpensive technique, splinting has the additional benefit of focusing on the functional aspects of the hand. A paucity of research examining the effects of splinting on spasticity has made this intervention a controversial one (Neuhaus et al, 1981; Langlois, 1986).

The effects of splinting on cerebral spasticity exhibited in the hemiplegic hand of adults and children and the indications for splinting continue to cause controversy and confusion about the direction of practice for occupational therapists (Hopkins & Smith, 1983; Neuhaus et al, 1981; Todd & Davies, 1982). While clinical observation has shown an immediate reduction of spasticity after the application of a splint (e.g. Switzer, 1980; Zislis, 1964), others have reported contradictory results when they used more scientific techniques (Mathiowetz, Bolding & Trombly, 1983).

Patient Perception of the Benefits of Splinting

Spasticity is a phenomenon that demonstrates marked fluctuations in severity, and is responsive to both emotional and systemic factors (Burry, 1972; McKeeman, 1984). For this reason, the perceived benefits of the splint, specifically the level of expectation of satisfaction, may be correlated with the change in the degree of spasticity.

Satisfaction with medical encounters has been shown to be predictive of behaviour and compliance with medical regimens (Chang, Uman, Linn & Ware, 1985; Lewis, Scott, Pantell & Wolf, 1986; Marquis, Davies, Ware & Kane, 1983); expectations of treatment efficacy may also contribute to such similar effects. In fact, the theoretical concept, known as self-efficacy, suggests that an individual’s expectation of his/her ability to achieve a certain change in behaviour can be used to predict success or failure at that task (Bandura, 1977).

The research on patient satisfaction has focused
primarily on the physician-patient relationship. Evaluations of patient attitudes to doctors and their medical care have concentrated on the following dimensions: accessibility, continuity, humanness, and perceived quality of care (Marquis et al, 1983; Ware & Synder, 1975). Of these parameters, the evaluation of humanness and the patient's perception of the therapist prescribing splint use, and his/her perception of the quality of care could be applied to an assessment of patient satisfaction with the splint.

Compliance
Patient compliance to a prescribed procedure is also a concern to investigators. The credibility of subjective evaluations of compliance has been demonstrated in an assessment of the tendency of people with hypertension to take medication (Green, Levine, Wolle & Deeds, 1979). These investigators reported a direct, linear relationship between a self-reported measure of compliance with blood pressure control; however, such a strong relationship was not evident with a pill count. Consequently, they concluded that a soft measure (self-reported) was preferable to a hard measure (e.g. pill count).

Purpose & Objectives
The purpose of this investigation is to further examine the use of hand splints as a low cost & non-invasive method of reducing upper extremity muscle tone following stroke. The objectives of this feasibility study were to determine if subjects could be recruited and trained to follow prescribed testing procedures, and to pre-test instruments for measuring splint satisfaction, expectations and compliance. Pre-testing of the satisfaction and expectations instruments included a preliminary measure of validity and reliability. In addition, we were interested in assessing whether there were any trends evident in this pilot study that would support continuation of this line of research in a full-scale randomized trial. The first objective of this pilot study was to examine the effectiveness of three splint wearing schedules of twenty-two, twelve, and six hours a day on spasticity affecting the wrist musculature. As well, relationships between expectations of the splint/satisfaction with the splint, and changes in spasticity were examined. Finally, an examination of compliance and its relationship to expectations and satisfaction was carried out.

METHODS

Study Subjects
The thirteen subjects admitted to the pilot study were 21 years of age or older. They had a single diagnosis of stroke that occurred at least 12 months prior to admission to the study and resulted in spastic hemiplegia. Additionally, they exhibited a medically stable condition and were free of any other medical problem that could influence the degree of spasticity. Selected sections of the Short Examination for Aphasia (Scheull, 1974) were used to determine that all subjects were able to understand and cooperate with all test and treatment procedures.

Finally, subjects were not involved in any other therapy designed to reduce spasticity. Subjects were recruited through the London Chapter of the Ontario Stroke Recovery Association, the Department of Occupational Therapy, Parkwood Hospital and Home Care Services, London.

Characteristics of the participants are described in Table 1. Six subjects demonstrated a moderate degree of spasticity, while three (numbers 2, 3, & 7) displayed more marked spasticity. Unfortunately, four of the original 13 subjects withdrew from the study: one woman did not comply; a man who had an old amputation of two digits of the affected hand at the distal inter-phalangeal joints experienced discomfort from the splint; and two women experienced severe unexpected illness unrelated to the stroke during the course of the study.

INSTRUMENTATION

Expectations of the splint
Because no measure of expectations of the splint could be located, a 22-item self-administered questionnaire was developed. The two specific areas addressed were the expectations of: 1) the splint itself; and 2) the effects or changes that follow wearing of the splint. Six general items (i.e., “I expect the splint will help my hand”) were added to test the construct validity of the questionnaire. The extent of agreement between these general questions and the specific constructs, or subtests, was used to provide a preliminary measure of the validity of this instrument.

Satisfaction with the Splint
To measure the degree of satisfaction, a 32-item self-administered questionnaire was developed; it focused on three areas of satisfaction. These were: 1) satisfaction with the explanations about the splint and testing procedures, and the subject’s perception of the procedures; 2) satisfaction with the splint itself; and 3) satisfaction with the results of splinting. Items included in the first section were extracted from the Medical Interview Satisfaction Scale (MISS) cognitive, affective and behavioural subscales (Wolf, Putman,
Table 1
Characteristics of Study Participants

<table>
<thead>
<tr>
<th>Group 1 - 6 hours per day</th>
<th>Subject</th>
<th>Sex</th>
<th>Age</th>
<th>Time Since Stroke</th>
<th>Marital Status</th>
<th>Living Arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>69</td>
<td>6.0 years</td>
<td>widowed</td>
<td>nursing home</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>72</td>
<td>4.8 years</td>
<td>married</td>
<td>nursing home</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>46</td>
<td>13.0 years</td>
<td>divorced</td>
<td>home</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>62.3</td>
<td>7.9 years</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 2 - 12 hours per day</th>
<th>Subject</th>
<th>Sex</th>
<th>Age</th>
<th>Time Since Stroke</th>
<th>Marital Status</th>
<th>Living Arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>F</td>
<td>69</td>
<td>6.7 years</td>
<td>widowed</td>
<td>home</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>63</td>
<td>1.8 years</td>
<td>widowed</td>
<td>home for aged</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>61</td>
<td>11.8 years</td>
<td>married</td>
<td>home</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>64.3</td>
<td>6.7 years</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 3 - 22 hours per day</th>
<th>Subject</th>
<th>Sex</th>
<th>Age</th>
<th>Time Since Stroke</th>
<th>Marital Status</th>
<th>Living Arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>M</td>
<td>46</td>
<td>1.8 years</td>
<td>married</td>
<td>home</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>M</td>
<td>78</td>
<td>2.9 years</td>
<td>single</td>
<td>home for aged</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>74</td>
<td>7.8 years</td>
<td>widowed</td>
<td>home</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>66.0</td>
<td>4.2 years</td>
<td></td>
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</tr>
</tbody>
</table>

James & Stiles, 1978) and were modified slightly to reflect the focus of the feasibility study. Eight general items were added to offer a preliminary test of validity.

Compliance Log
Since continuous wearing of the splint was recommended, each participant completed a daily record of the number of hours the splint was worn, as well as an indication of whether or not it was a continuous period. As well, this record was used to monitor range of motion exercises. To verify if the subject was accurately recording the time in the compliance log, five compliance questions relating to splint wearing were asked at the completion of the study, for example, "Did you ever forget to wear the splint for the number of hours you were supposed to wear it?" These questions were adapted and drawn from an evaluation of compliance tool developed by Green et al. (1979).

Quantification of Spasticity - Torque Motor System
Analysis of the response to torque motion generated by a Direct Current (D.C) brushless motor has provided a valuable method of assessing muscle control systems (Walsh, 1975). The application of torque motion has been used previously to assess dynamically mechanical compliance, or stiffness, of the human wrist (Lakie, Walsh & Wright, 1985; Tatton, Bedingham, Verrier & Blair, 1984; Walsh, 1975), ankle (Agarwal & Gottlieb, 1977; Broberg & Grimby, 1983) and knee (Norton, Bomze & Chaplin, 1972).

A sophisticated torque motion analyzer, as employed by Newell and Hayes (1984) and others (McKeeman, 1984; Sinclair, 1986), was used to quantify spasticity of the wrist. This device measures the mechanical compliance of the wrist joint complex as a function of angular displacement (position). During
testing, the affected limb was subjected to an oscillating flexion and extension of the wrist through an arc of 0.8 radians at a frequency of 1.5 Hz (cycles per second). The angular displacement of the wrist and the resistive torque offered by the soft tissues spanning the wrist joint, in response to the movement of the manipulandum handle of the torque motion analyzer, were monitored continuously.

Intra-subject consistency was achieved by conducting each test at the same time of day. Splints were removed fifteen minutes prior to the assessment of spasticity. To ensure consistency in the position, goniometric measurements of shoulder and elbow placement were taken.

Study Design & Procedures
Following a preliminary evaluation to determine if all eligibility criteria had been met, the thirteen subjects who qualified were then randomly allocated to one of the three treatment groups for a four week period (see Table 1). These groups were defined by a twenty-two, twelve and six hour wearing schedule. To control self-ranging programmes and ensure that all subjects were following them, all groups were shown range of motion (ROM) exercises to be performed on a consistent schedule. All were asked to demonstrate the prescribed exercises and were monitored regularly through discussion of adherence to the programme and observation of individual performance. Regardless of group allocation, each subject followed identical testing procedures. All tests were carried out in the Clinical Laboratory, at Parkwood Hospital, London, Ontario, where research in spasticity and postural sway is conducted. The testing schedule consisted of four appointments: the pre-test, baseline evaluation of spasticity one day later, an interim assessment after the splint was worn for two weeks, and a final evaluation at four weeks.

During the pre-test, the initial intake evaluation and the questionnaire pertaining to the expectations of the splint were completed, and the splint was fabricated. One day later, baseline measurements of spasticity in the affected wrist were taken. Any necessary adaptations to the splint were made and subjects were provided with an envelope containing their group assignment and an information sheet on the corresponding wearing schedule. A daily record of the times the splint was worn was maintained by each subject. During the interim evaluation at two weeks into the splinting programme, spasticity of the affected wrist was measured again. Subjects also completed questionnaires on the expectations of the splint and satisfaction with the splinting programme. The final assessment involved an evaluation of spasticity, a repeated administration of the satisfaction with the splint questionnaire, and an assessment of ROM.

Splint Design
The splint design chosen for this study was the finger spreader (see Figure 1). Although originally constructed from foam by Bobath (1970), it was adapted by Doubilet & Polkow (1977) to produce a more durable design. This splint, fabricated either from foam or a bioplastic material, does appear to reduce spasticity in the upper extremity (Bobath, 1981; Doubilet & Polkow, 1977). The splint is smaller, less expensive, less of a hindrance than several other splint designs, and has enhanced cosmetic appeal. The splint was made from Sansplint XR, in accordance with the instructions outlined by Doubilet & Polkow (1977).

RESULTS
Participation
All potential subjects who were approached agreed to participate in the screening procedures. Four subjects did not meet the inclusion criteria. Compliance to all of the procedures was not achieved by every subject. Seven of the nine subjects reported that they adhered to the splinting schedule at least eighty percent of the time; however, two subjects (one from Group 2 and one from Group 3) reported that they were only approximately 50% compliant to their prescribed programme. All prescribed exercises were reported to be performed on a regular basis.

Instruments
To obtain data to represent wrist spasticity the resistive torque (measured in Newton meters) on the vertical axis versus displacement of the wrist (measured in radians) on the horizontal axis, were plotted to create

2 Sansplint XR is purchased from Smith and Nephew, 6600 Goreway Drive, Mississauga, Ontario L4V 1S6.
a hysteresis loop (see Figure 2). The area enclosed in the loop represents the energy loss to the system per cycle of displacement. A larger area is indicative of increased resistance to movement or increased spasticity at the wrist. In the top right quadrant of the plot, the loop represents the extension phase of a left hand or the flexion phase of the right hand.

Since each assessment of mechanical wrist compliance consists of five cycles, according to testing protocol, five hysteresis loops were created. The average area of the loops was divided by the displacement to yield a measurement of mean resistive torque of the wrist. These data were used in subsequent analyses.

A preliminary evaluation of reliability of the Expectation and Satisfaction Questionnaires was conducted by using Cronbach's alpha (Cronbach & Furby, 1970). The analysis showed that the instruments demonstrated internal consistency. The Expectation Questionnaire reached a value of 0.781 (expectations of the splint itself) and 0.611 (expectation of the effects or changes) respectively and the Satisfaction Questionnaire attained a value of 0.709 (satisfaction with the explanations and procedures), 0.677 (satisfaction with the splint itself) and 0.850 (satisfaction with the results of splinting) for each of the component parts. To assess construct validity, specific questions in the Expectations Questionnaire (expectations of the splint itself and the effects or changes that follow wearing of the splint) and the Satisfaction Questionnaire (subject's perception of the procedures, satisfaction with the splint, satisfaction with the results) were compared to the general questions added for this purpose. The only statistically significant differences were for the comparison of the specific questions on the outcome of splinting, in both questionnaires, to their respective general questions. These results suggest further evaluation of construct validity of these questionnaires is necessary. An attempt to evaluate content validity was achieved by integrating the comments of several occupational therapists into the design of the questionnaires.

Trends

Several predetermined statistical analyses were performed on the data obtained. First, to examine the effects of the wearing schedule on spasticity, a change score between baseline and final measurements of torques was calculated. The difference, or change, of spasticity in each of the three treatment groups was analyzed further to determine if one of the wearing schedules produced a greater reduction in muscle stiffness. A Spearman Rho calculation, done on the baseline and final measures, revealed a result of 0.93. With a larger sample size in the future, a stepwise multiple regression could be used to determine the specific predictors of outcome. Although no significant differences among the three groups were obtained, a decline in resistive torque seems to be evident in each of the three groups, indicating reductions in spasticity over the study period. The results for Group 2 (see Table 2) are more difficult to evaluate because of an error in a baseline measurement. The greatest change seems to have appeared in the group wearing the splint for twenty-two hours per day.

The relationship between the measure of expectations and the reduction of spasticity was evaluated. Since each administration of the Expectations Questionnaire (pre-test & day 14) measured essentially the same factors, a repeated measures regression (Donner, 1984) was used. The same statistical test was used to analyze the relationship between satisfaction and spasticity. As expected with a small sample, neither test produced a statistically significant result.

The relationship between the individual's reported compliance and his/her prescribed wearing schedule was also examined. The percentage of time the splint was worn was calculated from the Daily Record. No statistically significant relationship was found between reported compliance and the prescribed wearing schedule.

To explore the association between expectations and compliance, a repeated measures regression analysis was used. A significant correlation between expectations of the splint on outcome, and reported compliance was confirmed (p = 0.044).

Finally, satisfaction with the splint, outcome of splinting, and therapeutic relationship were examined by determining if a bivariate relationship between each of the three satisfaction measures and reported
Table 2
Main Area of the Hysteresis Loops
(expresssed in Nm. rads.)

<table>
<thead>
<tr>
<th>Group 1 - 6 hours per day</th>
<th>Subject</th>
<th>Baseline</th>
<th>Interim</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.4023348</td>
<td>0.7217106</td>
<td>0.2420658</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.4321200</td>
<td>0.2762834</td>
<td>0.3748920</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1.0762330</td>
<td>0.4880556</td>
<td>0.5784814</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.6368959</td>
<td>0.4953490</td>
<td>0.3984797</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 2 - 12 hours per day</th>
<th>Subject</th>
<th>Baseline</th>
<th>Interim</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0.4830858</td>
<td>0.5672110</td>
<td>0.3111140</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.4245076</td>
<td>0.4655880</td>
<td>0.2598520</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>1.8076120</td>
<td>0.7015930</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.4537967</td>
<td>0.9468036</td>
<td>0.4241864</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 3 - 22 hours per day</th>
<th>Subject</th>
<th>Baseline</th>
<th>Interim</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>0.9517750</td>
<td>0.42639920</td>
<td>0.17107220</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0.3220144</td>
<td>0.37522742</td>
<td>0.34710700</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.3014360</td>
<td></td>
<td>0.69311980</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.5250751</td>
<td>0.40081330</td>
<td>0.40376630</td>
<td></td>
</tr>
</tbody>
</table>

*Two areas are missing due to an error in testing*

compliance existed. Only satisfaction with the splint and reported compliance revealed a significant bivariate relationship (p=.038)

**DISCUSSION**

The feasibility study was conducted to pretest instruments and procedures, and to examine the data for trends. As well, the data were used for the estimation of sample size requirements for continued investigation.

The results of the feasibility test suggested that all procedures described appeared to have been appropriate. Preliminary data from the questionnaires suggested reasonable reliability; however, validity of the questionnaires requires further assessment.

**Critique of Study Design**

Patient compliance to an intervention or regimen is a particularly difficult area to investigate. Thus, comments regarding compliance are restricted to a self report. Poor compliance to the prescribed wearing schedule could have also resulted in a contamination of subjects in different groups; for example, subjects who were assigned to wear their splint for 22 hours may have only worn it about 12 hours per day. However, original group assignment had to be retained for statistical analyses. The method of measuring spasticity used in this study is very sophisticated; however, it does not offer an infallible measurement. Difficulties in achieving a consistent position of the arm and the influence of environmental factors on spasticity are recognized. As well, the torque motion analyzer assumes that muscle tone in spasticity is caused primarily by hyperreflexia, rather than morphological changes. A more technologically advanced system, however, that integrates other contributory components of spasticity is not currently available.
Research to date has not suggested that any one splint design is the most beneficial in the reduction of spasticity. A four week time frame may not be sufficient to study changes in long-standing spasticity but it was chosen to permit a comparison of these results to those of a previous splinting study (Newell & Hayes, 1984). Additionally, consistency in the fit of the splint may not have always been achieved. To the knowledge of the investigators, the effects of such variations have not been documented.

Applicability of Results

If significant reduction in spasticity is possible then therapists will have a guideline for splint prescription. Besides the direct clinical application of these results, the conclusions could point to the potential direction of future research. If the most beneficial wearing schedule is identified, many other important questions about splinting may be examined. These investigations should be directed towards an evaluation of this technique in an acute stroke population. Research findings have demonstrated that a particularly important component of the medical interview may be the patient’s perception of “being cared for” (Wooley, Kane, Hughes & Wright, 1979). Although patient satisfaction with the outcome of care is predicted best by both the outcome of the care and satisfaction with the care received, it may be influenced more by the physician’s efforts than by the assessment of the outcome itself (Wooley et al, 1979). The complexities of the determinants of compliance to a medical regimen are well documented (Haynes, 1979). Several investigators (Francis, Korsch & Morris, 1969; Korsch, Gozzi & Francis, 1968) have reported a relationship between patient expectation and compliance and between compliance and satisfaction. Thus, a further examination of the variable as they pertain to a therapeutic intervention will be beneficial in understanding the effect of occupational therapy intervention.

Finally, a relationship between splint expectations and corresponding changes in spasticity may suggest that a specific therapeutic technique is not as important as the personal beliefs of the individual who is being treated. Furthermore, an understanding of the specific components that appear to be related to the physical changes will be particularly useful in the development of intervention strategies.

SUMMARY

The feasibility study was a randomized clinical trial that was designed to pre-test instruments and procedures by investigating and examining pilot study trends on the effects of a finger spreader on the spastic musculature of the hand. The specific variables examined include the wearing schedule, compliance, subject expectations and satisfaction. Pilot study results demonstrated some interesting trends and confirmed the feasibility of all procedures. The investigation was designed to respond to the need for occupational therapists to be accountable in the delivery of health services in stroke rehabilitation. The use of hand splints may provide a low cost and non-invasive method of reducing upper extremity muscle tone following brain damage, yet further examination of the technique is essential.

REFERENCES


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