CHAPTER 8

THE RESULTS IN MEDICAL RESEARCH ARTICLES

8.1 Introduction

The Results section is the section in which the results of the researcher, which is new knowledge to the readers, are presented in a particular way. In some journals, the Results and Discussion sections are conflated to allow discussion whenever it is appropriate in the Results section. The articles examined here have separate Results and Discussion sections, and in three cases, the Results section is absent altogether. The absence of the Results section in these three articles arises from the mention of results in the Methods section, after a description of patients and experiments. By separating the Results and Discussion sections, the writer is able to simply report the findings objectively, allowing the reader to draw his own conclusions which he can then compare with the Discussion section which follows. In all the articles examined, this section is accompanied by tables and figures which allow
important information to be seen clearly, especially if comparisons between results need to be made.

8.2 Text Organization in Results

Several moves are observed to occur in this section, with repeated cycling of some moves, which means that some moves occur more than once. The following moves have been found to occur in the Results section and a description of each is given below:

Move 1: Statement of Results
Move 2: Methodology and Justification
Move 3: Comparison of Results in Study
Move 4: Agreement of Results with Previous Studies
Move 5: Interpretation of Results
Move 6: Evaluation of Results
Free Move: Reference to Table/Figure

The moves are similar to those proposed by Thompson (1993), and Moves 2 and 4 are similar to Bernhardt's (1985). There has been very little work done on Results from a rhetorical and grammatical perspective. This may be because it is often assumed that this section consists of reporting of findings and is fairly straightforward. From the moves that have been found to exist in this section, it is clear that writers do more than report their findings and that interpretation and evaluation are also included.
8.2.1 Move 1: Statement of Results

This move is the most common one, appearing in all the articles which have a Results section, and occurring more than once in every section. A few Results sections contain only this move and in some cases, several subsections make up this one move. There is often cycling of this move, with one of the other moves found in between Move 1. Usually, the other moves are relatively short and Move 1 takes up a major part of the section.

In this move, the results are simply stated objectively, the observations described logically and there is no author intrusion present. A free move 'Reference to table/figure' often appears in this move to enable the writer to illustrate his results and thus make his findings clear to the readers.

The number of clauses in this move ranges from 7 to 97, indicating that the move can be a very long one.

(1) The arteriogram after streptokinase infusion(s) demonstrated(P) complete lysis(C) in 11 legs (35 per cent)(Ac), partial lysis(C) in another 12 (39 per cent) (Ac) and(Aj) no change(C) in eight (26 per cent)(Ac). Of the eight [that (Aj) showed(P) no change(C)](Ac), the occlusion(C-S) was found(P) to result from (P) atherosclerosis of the run-off rather than thrombus in five cases
following five cases following popliteal exploration or autopsy (Beard, 1993:22).

(2) **Heartburn** (Fig. 1) and **regurgitation** (Fig. 2) diminished significantly \( (p<0.0001) \) after fundoplication. No reflux symptoms were reported by 75% of the patients with intact fundic wrap at endoscopy (Table 4). The scores for heartburn and regurgitation decreased in 100 and 104 patients (of 109), respectively, and were unchanged in the others (Luostarinen, 1993:331).

8.2.1.1 An Analysis of Mood in Move 1

The Subject in this move is in most cases a nominal group consisting of a single word or a lengthy noun phrase which may consist of any of the following:

- the treatment/
  - operation
- patients (limbs, body parts, number,
  - percentage, their condition)
- reference to degree,
  - growth rate, values,
  - the results

Subject/Complement $\rightarrow$ Nominal group $\rightarrow$
In 89 of 323 cases, when actions are carried out or observations are made, the Subject is actually the Complement which has been fronted as in example (2) 'No reflux symptoms'. The preferred structure appears to be Subject-Predicator-Complement and the results are often placed at the end of the clause.

Table 1 indicates the occurrence of Verb groups in this move.
Table 1 Verb groups in Move 1

<table>
<thead>
<tr>
<th></th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>present</td>
<td>7</td>
<td>2.0</td>
</tr>
<tr>
<td>past</td>
<td>224</td>
<td>62.9</td>
</tr>
<tr>
<td>perfective</td>
<td>8</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>239</td>
<td>67.1</td>
</tr>
<tr>
<td><strong>Passive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>present</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td>past</td>
<td>92</td>
<td>25.8</td>
</tr>
<tr>
<td>perfective</td>
<td>13</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>110</td>
<td>30.9</td>
</tr>
<tr>
<td><strong>Modal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>active</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td>passive</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total verbs/%</strong></td>
<td><strong>356</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The above table illustrates that the active past is the most dominant verb group in Move 1. This shows that writers prefer to use the past tense when they describe the results observed in their research. With respect to voice, the active is used more frequently than the passive in the description of results, indicating that the Subject occurs in Mood rather than...
Residue. This can be explained by the fact that in this move, what is described is usually a state, not an action and so the active form is used.

The verb 'be' is frequently found since it is associated with the common rhetorical function of description and this move is concerned with giving a description of results.

Tables and figures are commonly found in this move to enable the results to be depicted clearly. When references to tables or figures are being made, the tense used is the present as in 'are shown' and 'are summarized'. The perfectives, past and present, are present in this move when the writer describes events that had been carried out earlier on in the research and past experience with current relevance, respectively.

The modal 'could' is found in a few instances when the writer states what a method/equipment was able to do (Appendix, nos. 1, 6, 10).

The Complement in this move is either a nominal group which is usually not lengthy and which contains the results such as the condition of the patients, the number of patients or the percentage of disease, or an attributive complement. The nominal group usually consists of a premodifier and a noun, and the Attributive Complement is usually an adjectival group comprising an adjective.
The writer's evaluation is sometimes included in the nominal group Complement as the following example demonstrates:

One of the patients received **successful** orthotopic liver transplantation for progressive disabling symptoms 8 years after hepatic resection (Madariaga, 1993:612).

Table 2 illustrates the adjuncts that are present in this move.
Table 2 Adjuncts in Move 1

<table>
<thead>
<tr>
<th>Type of Adjunct</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circumstantial</td>
<td>470</td>
<td>93.8</td>
</tr>
<tr>
<td>Mood</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Comment</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Conjunctive</td>
<td>31</td>
<td>6.2</td>
</tr>
<tr>
<td>Total Adjuncts/%</td>
<td>501</td>
<td>100</td>
</tr>
</tbody>
</table>

Adjuncts are frequent in this move particularly as circumstantial elements of the following types: location, extent, manner. Examples such as 'Over the 4-year period' and 'in only 1 patient' are found.

The highest occurrence of adjuncts are adjuncts of location which comprise adjuncts of place and time. This indicates that in the description of results, the writer of medical articles are usually very precise about time and place and this particular adjunct is very important in this move. The other adjuncts have only a small incidence of occurrence by comparison.

The conjunctives which are present in this move are of various types and serve to link the clauses describing results.
8.2.1.2 An Analysis of Transitivity in Move 1

Table 3 tabulates the total number of transitivity processes in this move.

Table 3 Transitivity in Move 1

<table>
<thead>
<tr>
<th>Type of Process</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>183</td>
<td>43.2</td>
</tr>
<tr>
<td>Relational</td>
<td>208</td>
<td>49.1</td>
</tr>
<tr>
<td>Mental</td>
<td>26</td>
<td>6.1</td>
</tr>
<tr>
<td>Verbal</td>
<td>7</td>
<td>1.7</td>
</tr>
<tr>
<td>Total processes/%</td>
<td>424</td>
<td>100</td>
</tr>
</tbody>
</table>

As can be seen from the table, the process types divide nearly equally between material and relational with the presence of some mental and a few verbal processes. The emphasis in this move is on the description of states and events which are observed in the results.

Mental processes are found when, in the description of results, the writers refer to their observations and opinions but do not mention themselves as the sensers.

All of these patients were considered to have aneurysms that were easily palpable (Craig, 1993: 451).
Verbal processes are used when there is a reference to what the patients reported or described as in the following example:

At follow-up 19 of the 109 patients reported inability to belch and 44 inability to vomit after fundoplication. Of remainder, 58 per cent and 33 per cent, respectively, described belching and vomiting as more difficult than before (Luostarinen, 1993:331).

8.2.1.3 An Analysis of Theme in Move 1

Table 4 tabulates the occurrence of theme in this move.
Table 4 Theme in Move 1

<table>
<thead>
<tr>
<th>Theme</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal group</td>
<td>209</td>
<td>68.3</td>
</tr>
<tr>
<td>Circumstantial element</td>
<td>61</td>
<td>19.3</td>
</tr>
<tr>
<td>Conjunctive adjunct+Nom. gp.</td>
<td>15</td>
<td>4.9</td>
</tr>
<tr>
<td>Existential there</td>
<td>10</td>
<td>3.3</td>
</tr>
<tr>
<td>It+ verbal gp.</td>
<td>5</td>
<td>1.6</td>
</tr>
<tr>
<td>Conjunctive adjunct+Exis. th.</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Conjunctive adjunct+Cir. ele.</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Comment adj.+Nom. gp.</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>wh-clause</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total themes/%</strong></td>
<td><strong>306</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The majority of the themes in this move are nominal groups. The thematic structure of clauses in nearly all cases is that of unmarked theme which means that given information co-occurs with themes and new information positioned later. In this move, the theme may be any of the following:
The circumstantial element as theme occurs usually when there is reference to patients and time such as 'After selective proximal vagotomy with pyloroplasty' and 'Of the remaining 24 patients'. When this is made the theme, the theme is considered a marked theme and indicates that the writer wishes to draw attention to something other than the Subject.

Instances of the other themes are rare and no definite explanations can be given for them.

8.2.2 Move 2: Methodology of and Justification for procedure

This move which is critical in showing that the data is valid is present in seven of the articles examined. The writer of the article briefly mentions the procedure used in the research and states the reason for it and defends the technique chosen in this section. Sometimes the writer includes statements which explain
why a method or procedure was used instead of just telling the reader what method was used. This move reveals the researcher's rationale behind his decision to use certain techniques, methods and equipment. As is stated by Thompson (1993), if the writer expects his procedure or technique to be questioned, he will want to argue for the validity and legitimacy of the method or technique through appeals to established values. The reason why this move is present in this section rather than in Methods is because value judgements and attitude are often left to Results and Discussion and the validity of the data comes under careful scrutiny in the section on Results (Thompson, 1993:115-116). The number of clauses ranges from 1 to 22 in this move. Two examples of this move with the mood analysis are given below.

(1) **One patient(S) had(P) thrombolysis of**

the reversed saphenous vein graft(C) and(Aj),

after successful lysis(Ac), had(P) the graft ruptured(C) during attempted dilatation of a stricture in its upper third(Ac). **The graft(C-S)** was replaced(P) by a synthetic conduit

[which (S) also (Aj)failed (P)](Ac) and(Aj) the patient(S) came to (P) amputation(C)

(Giddings, 1993:1263).

(2) **Two patients with selective proximal vagotomy and pyloroplasty, and six with selective proximal vagotomy**
alone (C-S), were reoperated (P) with antral resection and side-to-side (six patients) or end-to-end (two patients) gastrojejunostomy. A *ravagotomy (selective vagotomy)* (C-S) was added (P) in two of the patients (Ac) because of incomplete vagotomy according to the insulin test (Ac) (Emas, 1993: 8-12).

8.2.2.1 An Analysis of Mood in Move 2

The Subject in this move is usually a nominal group which may consist of the following:

- reference to the patients (number, symptoms, parts of their anatomy)
- the technique/procedure/method
- the medical condition/health problem
- reference to reason for treatment
- reference to writers

Subject/Complement $\rightarrow$ Nominal $\rightarrow$ -fronted group

In several cases, the Subject is actually the Complement which has been fronted. There are 33 instances of Subject and 25 instances of Complement in front position. When the Subject is fronted, the de-
scription given is usually about the patients and their symptoms or what a particular method does to the patients. When the Complement is fronted, the description is usually of the procedures involved in the research, and what was carried out would be made the Subject.

Table 3 presents the Verb groups in Move 2.

Table 3 Verb groups in Move 2

<table>
<thead>
<tr>
<th></th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>present</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>past</td>
<td>21</td>
<td>47.7</td>
</tr>
<tr>
<td>perfective</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>52.2</td>
</tr>
<tr>
<td><strong>Passive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>present</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>past</td>
<td>19</td>
<td>43.2</td>
</tr>
<tr>
<td>perfective</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>47.7</td>
</tr>
</tbody>
</table>

| Total verbs/% | 44                | 100             |

In this move on the methodology used, almost the only verb groups which are found are the active and the passive past since this move involves events which
took place in the past and procedures carried out by the writer in the past. This move does not concern itself with the present time. Unlike Move 1 which has a higher incidence of the active voice to the passive, in this move, the disparity is small with a slight increase in the passive voice. This indicates that in this section, the writer does not discriminate against either voice forms. The active voice is preferred in the description of patients, their symptoms and what a particular method does. When actions involving procedures are described, the passive is preferred. When the passive form is used, agentless passives are predominant; the actor is isolated from the event so that the emphasis is on the event itself. The question of who performs the actions is far less important than what has taken place. The choice of agentless passives also helps maintain the impersonal tone of the text. The use of 'we' is found only in one instance in this move when the writer intends to show that he has made a unique procedural choice as the following example shows.

After similar experience from another two patients (unpublished), we now use the side-to-side anastomosis after antral resection (Emas, 1993:11).

The Complement in this move is mainly a nominal group which may consist of a procedure or method
used or the condition of the patients in the study. There is only one attributive Complement present indicating that value judgements are not made in this move.

Complement→ Nominal patients' symptoms, condition
group→ technique/treatment
equipment

Table 5 illustrates the adjuncts which are present in this move.

Table 5 Adjuncts in Move 2

<table>
<thead>
<tr>
<th>Type of Adjunct</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circumstantial</td>
<td>119</td>
<td>92.2</td>
</tr>
<tr>
<td>Conjunctive</td>
<td>10</td>
<td>7.7</td>
</tr>
<tr>
<td>Total adjuncts/total</td>
<td>129</td>
<td>100</td>
</tr>
</tbody>
</table>

In this move, the common circumstantial adjuncts which are present are adjuncts of location (time and place), cause (reason, purpose and behalf), accompaniment and manner (means, quality and comparison). Adjuncts of location inform the readers where and when the events described took place. Adjuncts of cause are found when there are explicit justifications for the selection of certain procedures, equipment or alternatives to standard procedures. Adjuncts of accompaniment shows that something is present with
something else and adjuncts of manner inform the readers how a procedure was carried out or how a technique works.

The conjunctive adjuncts which are found are mainly ones showing reason or cause such as 'because' in explaining why a certain procedure was carried out.

8.2.2.2 An Analysis of Transitivity in Move 2

Table 6 tabulates the transitivity processes that are found in this move.

Table 6 Transitivity in Move 2

<table>
<thead>
<tr>
<th>Type of Process</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>43</td>
<td>78.2</td>
</tr>
<tr>
<td>Relational</td>
<td>11</td>
<td>20.0</td>
</tr>
<tr>
<td>Mental</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Verbal</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>Total processes/%</td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>

In this move, material processes far outweigh relational processes due to the content of the move. Move 2 is concerned mainly with methods and procedures and are thus about actions carried out. Material processes are found in the description of what the patients
underwent and what a procedure involved. Relational processes are limited to the description of the patients or to a description of a technique.

The one instance of verbal process is found when the writer mentions a complaint by a patient who had been treated and was reoperated on with a different technique.

8.2.2.3 An Analysis of Theme in Move 2

Table 7 presents the themes that are found in this move.

Table 7 Theme in Move 2

<table>
<thead>
<tr>
<th>Theme</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal group</td>
<td>44</td>
<td>73.3</td>
</tr>
<tr>
<td>Circumstan. element</td>
<td>14</td>
<td>23.3</td>
</tr>
<tr>
<td>Conjunc. Adj+Nom. gp.</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td><strong>Total themes/%</strong></td>
<td><strong>60</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

In this move, the theme is normally an unmarked theme consisting of a nominal group which refers to the following:

Theme→ Nominal group→ the patients (parts of the anatomy)

-the medical condition/ health problem
-technique/ procedure
When a circumstantial element occurs as theme, it contains information about the patients, the purpose of the research and the reason for using a particular method.

8.2.3 Move 3: Comparison of results

This move occurs in five articles when the writer compares results between two or more groups of patients in his research within the same study to determine similarities or discrepancies in the results. The patients are divided into groups to enable comparisons to be made between them with regard to results, outcome of a treatment to see which group came out better. The clauses in this move range from 2 to 33.

(1) In the group with unilateral disease (Ac),

five patients (S) had (P) a parotid stenosis (C)
in the range of 35-50 per cent (Ac), while (Aj) in
the group with bilateral disease (Ac) six (S) had (P)
a stenosis (C) in this range (Ac) on the less
affected side (Ac). Comparison of the breath-holding
index in these two subgroups (S) revealed (P)
that (Aj) it (S) was (F) lower (C) in the group
with bilateral disease (0.61 versus 1.21 per cent per
s, P<0.05) (Ac), while (Aj) the degree of carotid
stenosis in the two groups (S) was (F) similar.

237
(2) The baseline blood concentrations of proteins and free fatty acids (S) did not differ (P) between the GH and STD therapy groups (Table 3) (Ac). After GH treatment (Ac), the patients (S) experienced (P) a significant, but expected, rise in IGF concentrations (C) compared with those receiving STD therapy (Ac). Of the other plasma proteins (albumin, transferrin, prealbumin, and RBP) (Ac), only the transferrin level (S) increased (P) significantly (Am) over the baseline determinations (Ac) in those patients receiving STD therapy (Ac). After 3 weeks of treatment (Ac), free fatty acid concentrations (S) increased (P) significantly (Am) in the patients receiving GH (Ac) (Byrne, 1993:408-411).

8.2.3.1 An Analysis of Mood in Move 3

The Subject in this move is a nominal group with reference to the patients in the study, for example, their number, the subgroups, the incidence of occurrence or the results themselves.

In some instances, it is not the Subject, but the Complement which is fronted. There are 26 occurrences of Subject and 5 occurrences of Complement fronted showing that the writers prefer to position the comparisons made at the end of the clauses.

238
Subject/Complement→ Nominal

- the patients (number, groups)
- reference to measurement (levels, degree, mean)
- results of operation/
  effect of treatment

Table 8 presents the Verb groups in this move.

Table 8 Verb Groups in Move 3

<table>
<thead>
<tr>
<th></th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>present</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>past</td>
<td>25</td>
<td>78.1</td>
</tr>
<tr>
<td>perfective</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>78.1</td>
</tr>
<tr>
<td><strong>Passive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>present</td>
<td>3</td>
<td>9.4</td>
</tr>
<tr>
<td>past</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>perfective</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>21.9</td>
</tr>
<tr>
<td><strong>Total verbs/%</strong></td>
<td>32</td>
<td>100</td>
</tr>
</tbody>
</table>

The above table illustrates that apart from the active past, the other verb groups rarely occur or are
absent altogether. This is because the information found in this move concerns comparisons made in the study carried out in the past. The preferred voice is the active which occurs far more often than the passive showing that writers prefer to use the active voice in the description of patients and findings in the groups of patients studied, thereby positioning the findings at the end of the clauses. The passive present is present when there is a reference to a table which shows the comparisons between the patients described.

The Complement is either a nominal group or an attributive complement in this move. The percentage of occurrence of attributive complements is higher here than in the other moves mainly because of the comparisons which are constantly being made between two groups of patients which may include evaluations. The Complement usually involves the following:

Complement→ Nominal
  group→ the patients (number, group, parts of their anatomy)
             observations/findings
             medical condition

Attributive Complement→ Adjectival group→ eg. similar different lower

Table 9 presents the adjuncts that are found in this move.

240
Table 9 The Adjuncts in Move 3

<table>
<thead>
<tr>
<th>Type of Adjunct</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circumstantial</td>
<td>147</td>
<td>93.6</td>
</tr>
<tr>
<td>Conjunctive</td>
<td>10</td>
<td>6.4</td>
</tr>
<tr>
<td>Total adjuncts/%</td>
<td>157</td>
<td>100</td>
</tr>
</tbody>
</table>

In this move, results of comparisons made between two groups of patients undergoing different types of treatment or between different parts of the patients' bodies are given. Hence, the adjuncts consist mainly of adjuncts of location (place and time) such as ´in the erythromycin group´, ´on the non-stenosed side´ and ´When foot volumetry was performed before operation in the presence of tourniquet occlusion of superficial veins´.

8.2.3.2 An Analysis of Transitivity in Move 3

Table 10 presents the processes that are found in this move.
Table 10 Transitivity processes in Move 3

<table>
<thead>
<tr>
<th>Type of Process</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>12</td>
<td>36.4</td>
</tr>
<tr>
<td>Relational</td>
<td>21</td>
<td>63.6</td>
</tr>
<tr>
<td>Mental</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Verbal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total processes</td>
<td>33</td>
<td>100</td>
</tr>
</tbody>
</table>

As can be seen, relational processes are the most frequently occurring process type in this move. This is due to the description of states of patients when they are being compared in the study, for example, when their symptoms or condition are stated or a value given. The material processes are present when the writer describes what the results in a group of patients revealed or whether the index increased or decreased.

8.2.3.3 An Analysis of Theme in Move 3

The theme in this move is a nominal group which can be any of the following: reference to two groups or sub-groups, reference to the patients, reference to the incidence of occurrence, reference to some
measure/level and reference to results such as 'The breath-holding index', 'The control group' and 'The overall incidence of DGE'.

The circumstantial elements which occur as theme refer to groups of patients, time and manner as in the following examples: 'In the group with unilateral disease', 'When foot volumetry was performed before operation in the presence of tourniquet occlusion of superficial veins' and 'After 3 weeks of treatment'. The conjunctive adjuncts which are present in this move are those of comparison and contrast such as 'while' and 'however'.

```
Theme --> Nominal
  group -->
    reference to patients (groups, parts of their anatomy, symptoms)
    reference to comparison
    reference to incidence of occurrence
    reference to measurement (level, median)
```

8.2.4 Move 4: Agreement with previous studies

This move which may be expected to appear quite commonly is only present in one article in the Annals of Surgery when the writer attempts to show that his findings agree with previous ones thereby giving his study more credibility. It may be more common in the Discussion section when the writer discusses the results presented with reference to other published work. This
move contains statements which note some similarity or consistency between the writer's results and those of previous studies and consists of only 2 clauses.

(1) The frequency of the signs and symptoms of pheochromocytoma in 58 patients with MEN 2A or MEN 2B(S) was(F) similar(C) to [that (S) reported(P) by Manger and Gifford(Adj) in an unselected group of 39 patients (Ac)] (Ac) (Lairmore, 1993:597).

(2) These findings(S) support(P) previous studies [that (Aj) have described (P) bilateral and diffuse microscopic abnormalities and adrenal medullary hyperplasia as a precursor to the development of pheochromocytomas (C) in patients with MEN 2A or MEN 2B(Ac)](C) (Lairmore, 1993:599).

8.2.4.1 An Analysis of Mood in Move 4

In this rare occurrence of agreement with previous studies, the Subject in both cases are nominal groups containing either the results observed or reference to the findings and 'that' referring to previous findings.

There are only four verb groups in this move, one active present, two active past and one present perfective. The active present is used when the writer states that his findings in general support those by
another researcher as in example 2. The active past is used when the writer states his observation of the patients' condition which are similar to another researcher's report and when he cites the researcher's work and names the researchers as in example 1. The difference in past and present tense usage may be due to the fact that, in example 1, the reference to the writer's findings is more specific and it is something discovered in the past whereas in example 2 the reference to findings is general and of current relevance to the present time. The present perfective is found when the writer cites previous research, which his study supports, without naming previous researchers.

There are only three complements in this move as the above examples show, one a nominal group which contains a reference to previous research on the same area, another the medical condition described in previous studies and the third, an attributive complement showing comparison.

The only adjuncts which occur in this move are circumstantial adjuncts, with two occurrences of adjuncts of location, two of manner and one of accompaniment.

8.2.4.2 An Analysis of Transitivity in Move 4

There is one material, one relational and two verbal processes in this move. The material process is found when the writer describes an action that is being
done, that his findings support previous research. The relational process occurs in the description of the results, that they are similar to previous findings.

The verbal processes occur in referencing previous research, when the writer states what had been reported or described by previous studies.

8.2.4.3 An Analysis of Theme in Move 4

The two themes that are found in this move are nominal groups which consist of reference to the findings, as in example 2, and the results themselves as in example 1.

8.2.5 Move 5: Interpretation of results

This move which explains the meaning or significance of the findings and in which the writer draws conclusions from the results is not a very common move in this section, presumably because in medical surgical articles, the interpretation of results usually appears in the Discussion section. Thompson claims that interpretations serve the function of persuading the readers 'of a proposed reality constructed from and supported by experimental data' and 'are designed to bring the reader into agreement with the author on what the experimental results mean' (Thompson, 1993:118). Statements of interpretation usually involve the use of modals or terms indicating probability or necessity of a
particular finding. It appears in only four articles and consists of clauses ranging from 1 to 3.

(1) It(S) is(F) possible(C) that (Aj)
this (S) was (F) an extension of a subendocardial infarction [that (S) was (F) the original source of the embolus (C)] (C)(Beard, 1993:23).

(2) This(S) meant(P), for instance(Aj),
that (Aj) patients [categorized (P) as bilobar on CTAP but unilobar on delay CT (Ac)] (C-S) would be classified (P) as bilobar- the maximum extent of disease (Ac)(Karl,1993:228-230).

8.2.5.1 An Analysis of Mood in Move 5

In this move, the Subject is a nominal group which comprises the medical condition of the patients or the results of the study which have been mentioned earlier. Of the five subjects that are present, none are fronted-Complements, indicating that interpretations are placed at the end of the clause.

There are seven verb groups present in this move, one active present verbs, three active past, two past passive and one modal passive. The active present occurs when the writer makes a tentative interpretation and begins the move with introductory it, as in example 1. The active past is found in the interpretation it-
self, ('was' in example 1) and also when an interpretation is being made ('meant' in example 2).

This move involves authorial intrusion where the writer draws conclusions, often expressed in probabilistic terms, from the results obtained.

Of the four Complements that are present in this move, three are nominal groups and one an Attributive Complement. The nominal groups consist of the writers' interpretation of the observations made at or after operation. The attributive complement is 'possible', indicating the tentativeness of the writer in making interpretations.

8.2.5.2 An Analysis of Transitivity in Move 5

Of the seven transitivity processes that are present in this move, four are relational, two material and one mental process clauses. Relational process clauses are found when interpretations are made and material ones found when actions such as 'were categorized' and 'would be classified' referring to the writers as the actors of the process. A mental process clause is found when the writers' interpretation of some findings is disclosed with the use of 'were considered' (Appendix, no.7).

8.2.5.3 An Analysis of Theme in Move 5

This move contains four nominal group themes which consist of 'this' and 'these' which refer to
observations made by the writer at operation or after
operation and reference to patients. An interpretation
is given for all of these by the writers.

8.2.6 Move 6: Evaluation of Results

This move appears in seven articles and it
involves the writer's opinion and judgement about a
result and assesses the accuracy of the findings. Value
judgements found in this move reveals the writer's
attitudes towards the findings and in a few cases, the
reason for good results are explained by the writers.
This move indicates that writers do not simply report
their findings in the Results section. It is not a
common move in this section, presumably because it is
routine for the Discussion section to evaluate the
results. The clauses range from one to five in this
move.

(1) The outcome for primary embolism\(S\) was\(F\)
excellent\(C\) with complete or partial lysis\(Ac\)
in all nine limbs\(Ac\), restoration of pedal pulses\(Ac\)
in eight\(Ac\) and\(Aj\) a viable leg\(Ac\) in all
cases\(Ac\) (Figure 2). The results for thrombosis or
graft occlusion\(S\) were\(F\) encouraging and much
better\(C\) if \(Aj\) the problem \(C-S\) was not caused \(P\) by
existing atherosclerosis of the run-off\(Ac\)
(Figure 3) (Beard, 1993:22-23).
(2) Excellent or good subjective results (Visick grade 1 or 2) (C-S) were reported (P) by the 64 (59%) of the 109 patients (Ac) at follow-up evaluation (Ac) (Table 1) (Luostarinen, 1993:331).

8.2.6.1 An Analysis of Mood in Move 6

The Subject in this move is a nominal group which can consist of any of the following:

- Subject/Complement
  - fronted --> Nominal gp. -->
  - references to results/
    - outcome of treatment
  - reference to patients
  - method of treatment/
    - technique
  - evaluation of results

Only one of the seven Subjects is a Complement which has been fronted and it consists of the evaluation made (example 2 above). The rest of the Subjects consist of the results which are evaluated.

Of the eight verb groups that are present in this move, five are active past, two are past passive and one present passive. The active appears to be the more common verb group when evaluations are made by the writer. The active present is found in the interpretation when the writer makes a reference to a medical condition in general in evaluating the results of patients who had

250
undergone an operation (Appendix, no. 1). The past passive occurs in the interpretation when the writer states the condition under which the results would be good, as in example 1.

In this move, the Complements are either a nominal group with an evaluative premodifier or an Attributive Complement. The writer assesses the accuracy of his data and gives value judgements with such words as 'excellent' and 'good'. The choice of words discloses the writer's own attitude towards his data.

Complement $\rightarrow$ Nominal group $\rightarrow$ outcome of treatment $\rightarrow$ evaluation of results

Attributive Complement $\rightarrow$ adjectival group $\rightarrow$ eg. excellent effective interesting

The circumstantial adjuncts in this move consist of adjuncts of place and time, cause and condition.

8.2.6.2 An Analysis of Transitivity in Move 6

Table 12 presents the total number of clauses of each transitivity process type in Move 6.
Table 12 Transitivity in Move 6

<table>
<thead>
<tr>
<th>Type of Process</th>
<th>No. of Occurrence</th>
<th>% of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td>Relational</td>
<td>6</td>
<td>75.0</td>
</tr>
<tr>
<td>Mental</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Verbal</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total processes/%</strong></td>
<td><strong>8</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Relational processes appear to be the most common in this move which is to be expected given the value judgements found in this move. The verbal process occurs when the results reported by the patients are evaluated by the writer, as in example 2.

8.2.6.3 An Analysis of Theme in Move 6

In this move, the theme is in almost all cases a nominal group which consists of that which is evaluated:

Theme→ Nominal group→ reference to outcome or results of a treatment
  → reference to the patients
  → the evaluation
Usually, what is evaluated is made the theme and the evaluation placed at the end.

Thompson (1993) has a move called 'Admitting Discrepancies and Baffling Results' in which the writer concedes quantitative discrepancies or admits difficulty in interpreting results. This, however, does not seem to be present in the articles examined here.

8.2.7 Free move

There is a move, 'Reference to Table/Figure', which can be considered a free move in that it can appear anywhere in the section and with any of the above moves. It functions to make the results described clear to the readers by referring to tables and figures which depict the results.

(1) The number of doctors and non-doctors in each immunization category (C-S) is shown (P) in Table 1(Ac) (Williams, 1993:714).

(2) Figure 2(S) illustrates (P) the results of the solid phase radionuclide gastric emptying studies (C) (Yeo, 1993:234).

8.4 Conclusion

8.4.1 Order of the moves

The moves that have been found to be present
in Results are:

Move 1: Statement of Results
Move 2: Methodology and Justification for Procedure
Move 3: Comparison of Results in Study
Move 4: Agreement with Previous Studies
Move 5: Interpretation of Results
Move 6: Evaluation of Results

The subsections in this section range from 1 to 11, each containing one or more moves. Move 1: Statement of Results is a compulsory move in every results section. Move 1: Statement of Results or Move 3: Comparison of Results in Study is obligatory in every subsection. Each can occur by itself in a subsection and in every subsection, either Move 1: Statement of Results or Move 3: Comparison of Results in Study must be present. All the other moves can be considered optional and usually occur after Move 1: Statement of Results. Move 1: Statement of Results is the only move which can be cycled at any one position and is the most commonly occurring move in this section.

Based on the above findings, the following model for results is proposed.

Model for the Results section:

Move 1*. (Move 2) (Move 3) (Move 4) (Move 5) (Move 6)
The above model should be read as follows:

Key: ( ) indicates optionality
* indicates that cycling of the move can occur
. indicates that the move appears in a particular sequence

Based on the key, it can be seen that Moves 2, 3, 4, 5 and 6 are optional. Move 1 can be cycled which means that it can occur more than once in a section, and that it always occurs before any of the other moves in the section.

The model for each subsection is given below.

Model for a subsection:

"Move 1"* Move 2 "Move 3" Move 4 Move 5 Move 6

The above model should be read as follows:

Key: * indicates that cycling of the move can occur
~ indicates that the either move can be present by itself in a subsection without any of the other moves accompanying it.
( ) indicates optionality

From the above key, it can be observed that Move 1 can occur more than once in a subsection. Move 1
or Move 3 can be present by itself in a subsection without any of the other moves accompanying it. There is no fixed order of moves in a subsection; any of the moves can occur first.

8.4.2 The Lexicogrammar of Results

This research on the Results section demonstrates that surgeons do not simply report their findings in a factual manner. Although the bulk of the section consists of Move 1: Statement of Results, the other moves indicate that there is an attempt to argue for the validity of their findings, individual interpretation and evaluation as well.

All the twenty-one results sections use only one Mood type, the full non-elliptical declarative and their main intention is to inform the readers of the findings discovered. The declarative is used in this section because it is concerned with imparting information.

The Subject in all the moves consists of a nominal group with either a single word or more frequently a lengthy noun phrase.

An analysis of the Finite and Predicator in the moves in the Results section reveals that the most dominant verb group in the results section is the active past followed by the passive past, with not much variation in all the moves. The perfectives and modals
are almost absent in this section. With respect to voice, the active is used far more frequently than the passive in all the moves except for Move 2: Methodology and Justification for Procedure which contains descriptions of procedures and treatment carried out. It can be deduced that writers prefer to use the active voice in the description of results. The verb profile does not appear to vary considerably from one move to another in this section.

The Complement in all the moves is a nominal group and in some cases an Attributive Complement. In Move 6 which contains evaluations made by the writer, the incidence of occurrence of the Attributive Complement is highest due to the nature and content of the move.

Adjuncts are frequent in the medical research articles examined particularly as circumstantial elements in transitivity structures. There is a considerable amount of important circumstantial information, particularly concerning place and time which is conveyed by adjuncts which can occur clause initially or finally. The writers of medical articles need usually be very precise about such information; this being the case, circumstantial adjuncts play an important role in these articles.

Conjunctive adjuncts which are not very common in the moves are made up mainly of adversatives such as 'however', 'but' and 'although'. The infrequent
occurrence of conjunctive adjuncts may be due to the considerable amount of shared knowledge between writer and reader and the style of writing which renders these devices optional.

In transitivity, the process types divide nearly equally between material and relational, with only the presence of a few mental and verbal process clauses. The emphasis is primarily on description of states and events and actions, not on mental or verbal processes which involve thoughts or feelings. The occurrence of relational processes is highest in Moves 1: Stating Results, 3: Comparison of Results in the Study, 5: Interpretation of Results and 6: Evaluation of Results. In Move 2: Methodology and Justification, material processes far outweigh relational processes due to the content of this move. This move is concerned mainly with methods and procedures and are thus about actions carried out.

The majority of themes are made up of nominal groups. There are a number of modifiers and qualifiers preceding and following the headword, a noun, which is usually associated with specialized and complex subject matter where precision and compactness is desired. The interpretation of many of these nominal groups requires expert knowledge. The thematic structure of clauses in nearly all cases is that of unmarked theme which means that given information co-occurs with themes and new

258
information positioned later.