Kramer (1974) has defined a cyst as ‘a pathological cavity
having fluid, semifluid or gaseous contents and which is
not created by the accumulation of pus’. Most cysts, but
not all, are lined by epithelium. Cysts of the oral and max-
illofacial tissues that are not lined by epithelium are the
mucous extravasation cyst of the salivary glands, the
aneurysmal bone cyst and the solitary bone cyst. Despite
these examples, most pathologists prefer to describe those
pathological cavities not lined by epithelium as ‘pseudo-
cysts’. Reichart and Philipsen (2004) prefer to describe
these as ‘cavities’ rather than cysts; hence, for example,
‘aneurysmal bone cavity’. The classification proposed in
this book divides the cysts of the oral regions into those
lined by epithelium, and those that are not. Epithelial-
lined cystic odontogenic neoplasms, such as the unicystic
ameloblastoma, are not included in this edition.

Cysts historically named globulomaxillary, median
palatine and median mandibular cysts have been con-
vincingly shown by numbers of studies to be other odon-
togenic or developmental cysts. This terminology is no
longer used in diagnostic oral pathology departments in
most parts of the world and the authors of this edition
have decided to exclude it from the classification.

This is a classification of jaw cysts, not the classification.
Many other classifications have been published and
may well be perfectly satisfactory and readers are encour-
gaged to use any classification they find valuable as an aid
to memory and understanding.

In this edition of the book, the cysts are classified under
three main headings:

I Cysts of the jaws
II Cysts associated with the maxillary antrum
III Cysts of the soft tissues of the mouth, face, neck and
salivary glands

The cysts of the jaws are divided into those that are:

A Epithelial lined
B Not epithelial lined

The epithelial-lined cysts may be either of:

1 Developmental origin
2 Inflammatory origin

Cysts of developmental origin may be either:

(a) Odontogenic, meaning arising from odontogenic
tissues
(b) Non-odontogenic, meaning cysts arising from ecto-
derm involved in the development of the facial tissues

Classification

I Cysts of the jaws

A Epithelial-lined cysts

1 Developmental origin
(a) Odontogenic
   i Gingival cyst of infants
   ii Odontogenic keratocyst
   iii Dentigerous cyst
   iv Eruption cyst
   v Gingival cyst of adults
   vi Developmental lateral periodontal cyst
   vii Botryoid odontogenic cyst
   viii Glandular odontogenic cyst
   ix Calcifying odontogenic cyst
(b) Non-odontogenic
   i Midpalatal raphé cyst of infants
   ii Nasopalatine duct cyst
   iii Nasolabial cyst

2 Inflammatory origin
   i Radicular cyst, apical and lateral
   ii Residual cyst
   iii Paradental cyst and juvenile paradental cyst
   iv Inflammatory collateral cyst

B Non-epithelial-lined cysts

1 Solitary bone cyst
2 Aneurysmal bone cyst
**II Cysts associated with the maxillary antrum**
1. Mucocele
2. Retention cyst
3. Pseudocyst
4. Postoperative maxillary cyst

**III Cysts of the soft tissues of the mouth, face and neck**
1. Dermoid and epidermoid cysts
2. Lymphoepithelial (branchial) cyst
3. Thyroglossal duct cyst
4. Anterior median lingual cyst (intralingual cyst of foregut origin)
5. Oral cysts with gastric or intestinal epithelium (oral alimentary tract cyst)
6. Cystic hygroma
7. Nasopharyngeal cyst
8. Thymic cyst
9. Cysts of the salivary glands: mucous extravasation cyst; mucous retention cyst; ranula; polycystic (dysgenetic) disease of the parotid
10. Parasitic cysts: hydatid cyst; *Cysticercus cellulosae*; trichinosis

**Frequency of cysts of the oral regions**

Frequency statistics differ from incidence studies in that they are not standardised against known population data, such as age, gender and ethnicity. For data to be comparable between populations and internationally, age standardised incidence rates per 100000 for each lesion, compared with a standard world population, are a requirement for all national cancer registries.

Age-standardised incidence rates for odontogenic keratocysts and for dentigerous cysts in a defined area (the Witwatersrand) of South Africa have been reported by Shear and Singh (1978) and Rachanis and Shear (1978). The resulting data for these two cysts are discussed in the relevant chapters.

Frequency studies, based either on hospital or on departmental archival records, are the method used most often in clinical investigations. These may have been based on very few cases, particularly in rare conditions, or large numbers of cases in departments with considerable patient turnover recorded over many years. While these provide useful data on the behaviour and treatment of different diseases, they are of limited use in international comparative studies. However, the larger the sample, the more accurate will be the age, gender and race distributions. In the course of this book, published data on the relatively rare cysts have been pooled in order to improve their accuracy.

<table>
<thead>
<tr>
<th>Table 1.1 Distribution of 3498 jaw cysts according to diagnosis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cysts</td>
</tr>
<tr>
<td>Radicular/residual cyst</td>
</tr>
<tr>
<td>Dentigerous (follicular) cyst</td>
</tr>
<tr>
<td>Odontogenic keratocyst</td>
</tr>
<tr>
<td>(including orthokeratinised)</td>
</tr>
<tr>
<td>Nasopalatine duct cyst</td>
</tr>
<tr>
<td>Parodental cyst (including juvenile type)</td>
</tr>
<tr>
<td>Solitary bone cyst</td>
</tr>
<tr>
<td>Calcifying cyst odontogenic tumour</td>
</tr>
<tr>
<td>Eruption cyst</td>
</tr>
<tr>
<td>Developmental lateral periodontal cyst</td>
</tr>
<tr>
<td>Nasolabial cyst</td>
</tr>
<tr>
<td>Gingival cyst of adults</td>
</tr>
<tr>
<td>So-called ‘globulomaxillary’ cysts</td>
</tr>
<tr>
<td>Inflammatory collateral cyst</td>
</tr>
<tr>
<td>Aneurysmal bone cyst</td>
</tr>
<tr>
<td>Glandular odontogenic cyst (since 1992)</td>
</tr>
<tr>
<td>Postoperative maxillary cyst</td>
</tr>
<tr>
<td>Mucosal cyst of maxillary antrum</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 1.2 Distribution of 7121 odontogenic cysts according to diagnosis. From Jones <em>et al.</em> (2006), Sheffield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cysts</td>
</tr>
<tr>
<td>Radicular cyst</td>
</tr>
<tr>
<td>Dentigerous cyst</td>
</tr>
<tr>
<td>Odontogenic keratocyst (including orthokeratinised)</td>
</tr>
<tr>
<td>Residual cyst</td>
</tr>
<tr>
<td>Parodental cyst</td>
</tr>
<tr>
<td>Unclassified odontogenic cysts</td>
</tr>
<tr>
<td>Lateral periodontal cyst</td>
</tr>
<tr>
<td>Calcifying odontogenic cyst</td>
</tr>
<tr>
<td>Gingival cyst</td>
</tr>
<tr>
<td>Eruption cyst</td>
</tr>
<tr>
<td>Glandular odontogenic cyst</td>
</tr>
<tr>
<td>Epstein pearl</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

The relative frequency of cysts of the jaws documented in the Department of Oral Pathology of the University of the Witwatersrand in Johannesburg is shown in Table 1.1. A very extensive demographic study of odontogenic cysts has recently been published by Jones *et al.* (2006) based on a sample of 7121 cases from the Oral Pathology Department of the University of Sheffield, diagnosed over a 30-year period. While percentages for the three most frequently occurring cysts appear to be similar, their data, shown in Table 1.2, are not strictly comparable as they have been selected from a more restricted cohort of jaw cysts.

The Sheffield authors have also given a more detailed demographic analysis of their data, showing a breakdown of the numbers of odontogenic cysts in paediatric populations and adult populations.

Further demographic data are shown and discussed in the following chapters.