CURRENT PROBLEMS

Trauma can result in a wide spectrum of tissue lesions of the globe, optic nerve, and adnexa, ranging from the relatively superficial to vision threatening. Our understanding of the pathophysiology and management of these disorders has advanced tremendously over the last 30 years, and it is critical that a standardized classification system of terminology and assessment be used by both ophthalmologists and non-ophthalmologists when describing and communicating clinical findings. A uniform classification system enables this accurate transmission of clinical data, facilitating the delivery of optimal patient care as well as further analysis of the efficacy of medical and surgical interventions.

Without a standardized terminology of eye injury types, it is impossible to design projects such as the development of the OTS, to plan clinical trials in the field of ocular trauma, and to communicate unambiguously between ophthalmologists. Multiple examples from the literature demonstrate the lack of definitions, with obvious implications.

Blunt injury
- If the consequences are blunt, it is a contusion (closed globe injury).1
- If the inflicting object is blunt, it is either a contusion or a rupture (open globe injury).2 To add to the confusion, the two terms have even been thrown together as contusion rupture.3 Because the word “blunt” is ambiguous and contusion and rupture have vastly different implications, it is best to eliminate “blunt” from the eye injury vocabulary.

Blunt nonpenetrating globe injury5
- Do sharp nonpenetrating injuries also occur?

Blunt penetrating trauma4
- Aren’t all penetrating injuries sharp?

Sharp laceration5
- Is there a laceration that is blunt?

Blunt rupture6
- Is there a rupture that is sharp?

An unambiguous system in ocular traumatology must satisfy the following three criteria.
1. Each term has a unique definition. Currently, it is exceptional that definitions in publications are provided at all or that their use is enforced.7
2. No term can be applied for two different injuries. Unfortunately, numerous examples show that the same term is used to describe two distinctly different clinical entities. For example, perforating can mean an injury with an entrance wound only8 or one with both an entrance and an exit wound.9
3. No injury is described by different terms. Unfortunately, numerous examples show just the opposite. For example, an injury with both entrance and exit wounds is referred to as double penetrating,10 double perforating,11 and perforating,12 or the same injury is alternatively referred to either as penetrating or as perforating even within the same article.13
BIRMINGHAM EYE TRAUMA TERMINOLOGY

BETT satisfies all criteria for unambiguous standard terminology by:
- providing a clear definition for all injury types (Table 1–1); and
- placing each injury type within the framework of a comprehensive system (Fig. 1–1).

The key to BETT’s logic is to understand that all terms relate to the whole eyeball as the tissue of reference. In BETT, a penetrating corneal injury is unambiguously an open globe injury with a corneal wound; the same term had two potential meanings before:

1. An injury penetrating into the cornea (i.e., a partial-thickness corneal wound: a closed globe injury) or
2. An injury penetrating into the globe (i.e., a full-thickness corneal wound: an open globe injury).

BETT has been endorsed by several organizations including the American Academy of Ophthalmology, International Society of Ocular Trauma, Retina Society, United States Eye Injury Registry and its 25 international affiliates, Vitreous Society, and the World Eye Injury Registry. It is mandated by several journals such as Graefe’s Archives, Journal of Eye Trauma, Klinische Monatsblätter, and Ophthalmology.

Therefore, it is desirable that BETT becomes the language of everyday clinical practice.

<table>
<thead>
<tr>
<th>Table 1–1 TERMS AND DEFINITIONS IN BETT*</th>
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<tbody>
<tr>
<td><strong>Term</strong></td>
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<tr>
<td>Eyewall</td>
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<td>Closed globe injury</td>
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<td>Open globe injury</td>
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<td>Contusion</td>
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<td>Lamellar laceration</td>
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<td>Perforating injury</td>
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*Some injuries remain difficult to classify. For instance, an intravitreal BB pellet is technically an IOFB injury. However, because this is a blunt object that requires a huge impact force if it enters, not just contuses, the eye, there is an element of rupture involved. In such situations, the ophthalmologist should either describe the injury as “mixed” (i.e., rupture with an IOFB) or select the most serious type of the mechanisms involved (see Chapter 3).
REFERENCES


