



## Classification of Seat Belt Syndrome

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### Abstract

**Background:** Seat belt syndrome has become increasingly a notorious pattern of injury for victims wearing seatbelts during a vehicular crash. These injuries may be trivial with only the (seat belt sign or mark) or may often times be fatal. But there has not been developed a common medical/surgical classification to describe which components of the syndrome are encountered in a patient. In this article, we proffer an easy way of referring to the components of the seat belt syndrome encountered in any patient.

**Keywords:** Seat belt Syndrome; Seat belt sign; Abdominal wall echymoses; Visceral injury; Chance injuries

### Introduction

Road Traffic injuries are a growing public health and development problem-especially in developing countries [1].

Similarly, seat belts have been shown to be the single most effective way of providing occupant safety and protection in a vehicular accident [2]. Conversely, seat belts have been shown to be responsible for distinctive injury patterns collectively referred to as "Seat Belt Syndrome" [3].

Seat belt syndrome consists of the triad of:

1. Superficial Skin Bruises-like Abdominal Wall Echymoses (AWE)
2. Visceral Injuries and
3. Musculo-skeletal injuries [4].

Seat belt sign refers to the anterior skin injury caused by seat belts during their use. Some of these injuries can be so severe and so deep that diagonal belts in particular, have caused the decapitation of occupants on impact [5]. The presence of a seat belt sign alone has a 4 times likelihood of a chest injury and an 8 times (65%) likelihood of an abdominal injury and indicates over all, presence of some form of internal injury in 30% of cases [6]. But its absence does not exclude the presence of other components of the seat belt syndrome [7].

### Classification of Seat Belt Syndrome

Based on the fore-going, classification of Seat Belt injury is hereby proffered:

There are basically, two modes of presentation of seat belt syndrome namely:

Overt Seat belt syndrome and Covert Seat belt syndrome.

Overt Seat Belt Syndrome is one in which there is an obvious seat belt sign in addition to other internal injuries,

Covert seat belt syndrome is one in which there is no seat belt sign inspite of other internal injuries.

Whether the presentation of the seat belt syndrome is overt or covert, the injuries could be Type A or Type B.

- Type A Seat Belt Syndrome is the Complete Seat belt Syndrome: Consisting of the presence, in any degree of severity, of all the three components of the seat belt syndrome-superficial skin bruises, visceral injuries and musculo skeletal injuries.

- Type B Seat Belt Syndrome is the Incomplete Seat Belt Syndrome which may have two subtypes:

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- Type B1: Incomplete Seat belt syndrome-whether overt or covert, in which there is absence of only one of the three components of a seat belt syndrome [8].

- Type B2: Incomplete Seat Belt Syndrome-whether overt or covert, but there is presence of only one of the three components of a seat belt syndrome.

Type B1 is thus more severe than Type B-2.

In these Type B varieties, the component or components of the syndrome that are present should be mentioned:

For example, Type B-1 with no skin bruises OR Type B-2 with only skin bruises using this classification, any author about seat belt syndromes, need not get into unnecessary details but focus on the injuries that are present. Any reader, who might be interested, can check up the sub-classification of the different components of the seat belt syndrome.

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