

## Concussion Guidelines Step 1: Systematic Review of Prevalent Indicators

### Supplemental Content 10

Table. Prevalence of Signs

Reference/ Common Authors	LOC	PTA	RA	AA	Disorient. Confusion	Mental Status Change ≥ 5 min.	Sample Charact.	Sample Size	Compara- tor	Case Definition	Potential for Bias Details
Kontos 2010 <sup>1</sup> (Covassin)	1/96 (1%)	2/96 (2%)					Athletics Adults/Adolescents HS & Coll U.S.A.	96	Self	Altered mental status w or w/o LOC	Protocol for selecting cases unclear. No information on missing data. Blinding not specified.
Covassin 2007 <sup>2</sup>	3/79 (3.8%)						Athletics Adults College U.S.A.	79	Self	Altered mental status w or w/o LOC	Protocol for selecting cases unclear. Missing data not reported (attrition). Blinding not specified.
Iverson 2004 <sup>3</sup> (Lovell, Collins)	2/38 (5.3%)	8/38 (21%)	6/38 (15.8%)		17/38 (44.7%)	7/38 (18.4%)	Athletics Adults/Adolescents HS & Coll U.S.A.	38	Self	One or more of symptom check list	Protocol for selecting cases unclear. Only subjects with complete data included. Blinding not specified.
McCrea 2003 <sup>4</sup>	6/94 (6.4%)	18/94 (19.1%)	7/94 (7.4%)				Athletics Adults College U.S.A.	94 PCE 56 Controls	Uninjured matched athletes	One or more of symptom check list	Protocol for selecting cases unclear. Blinding not specified.
Broglio 2007 <sup>5</sup>	5/75 (6.7%)						Athletics Adults College U.S.A.	23	Self	AAN	Protocol for selecting cases unclear. Case definition unclear. Blinding not specified.
Collins	2/19						Athletics	19 PCE	Uninjured	AAN	Protocol for

1999 <sup>6</sup> (Lovell)	(10.5%)						Adults College U.S.A.	10 Controls	matched athletes		selecting cases unclear. Blinding not specified.
Lovell 2003 <sup>7</sup> (Collins, Iverson)	7/64 (10.9%)	19/64 (29.7%)	13/64 (20.3%)		28/64 (43.75%)		Athletics Adolescents High School U.S.A.	57	Self	One or more of symptom check list	Protocol for selecting cases unclear. Missing data unclear. Blinding not specified.
Van Kampen <sup>8</sup> 2006 (Lovell, Collins)	15/122 (12.3%)		65/122 (53.3%)	2/122 (1.6%)	22/122 (18%)		Athletics Adult/Adolescents High School & College U.S.A.	122 PCE 70 Controls	Uninjured athletes	Altered mental status w or w/o LOC and/or symptom(s)	Protocol for selecting cases unclear. Missing data unclear (attrition). Blinding not specified.
Collins 2006 <sup>9</sup> (Lovell, Iverson)	10/74 (13.5%)	19/74 (25.7%)	19/74 (25.7%)				Athletics Adolescents High School U.S.A.	74	Self	One or more of symptom check list	Protocol for selecting cases unclear. Blinding not specified.
Sim 2008 <sup>10</sup>	2/14 (14.3%)	4/14 (28.6%)					Athletics Adolescents High School U.S.A.	14	Self	Altered mental status w or w/o LOC	Protocol for selecting cases unclear. Missing data unclear (attrition). Blinding not specified.
Hinton- Bayre 1999 <sup>11</sup>	4/20 (20%)						Athletics Adults Pro. Rugby Australia	20 PCE 13 Controls	Self + Uninjured matched athletes	One or more of symptom check list	Protocol for selecting cases unclear. Case definition unclear. Blinding not specified.
Lovell 2007 <sup>12</sup> (Collins, Iverson)	6/28 (21.4%)		7/28 (25%)	16/28 (57.1%)			Athletics Adolescents High School U.S.A.	28 PCE 13 Controls	Age- matched controls	One or more of symptom check list + at least one abnormal ImPACT score	Protocol for selecting cases unclear. Missing data unclear. Blinding not specified.

											Control for confounding not completely adequate.
Maddocks 1995 <sup>13</sup>	11/28 (39.3%)						Athletics Adults Aust. Rules Football Australia	28 PCE 28 Controls	Other injury athletes	One or more of symptom check list	Personnel assessing outcomes not specified. Blinding not specified. Control for confounding unclear.
De Monte 2006 <sup>14</sup>		29.6% net*					Hospital Adults/Pediatrics Australia	90 PCE 35 Controls	Orthopedic controls	GCS 13-15, Neg. CT, <u>and</u> one or more of symptom check list	Differential attrition across groups = 10.4%. Blinding not specified.

AAN: American Academy of Neurology, AA: anterograde amnesia, LOC: loss of consciousness, PCE: Potentially concussive event, PTA: post-traumatic amnesia, RA: retrograde amnesia,

\*. 42/90 (46.7%) had PTA; 6/35 (17.1%) Orthopedic Controls had PTA.

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