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Changes to the CBA algorithm for 2013 onwards as proposed by the Handicap Research Group

The recently introduced CBA algorithm has been shown to be over-dependent on field size for large fields as the determined CBA became excessively negative. To correct this anomaly the following amendments to Appendix 2 have been introduced (starting from the Paragraph 2.2 onwards):

The whole of Paragraph 2.2 has been replaced by the following new text and table:

2.2 Base factors $\mathbf{g_{(k)}}$ and $\mathbf{h_{(k)}}$ for the adjustment ranges, $g_{(-4)}$ to $g_{(+1)}$, $h_{(-4)}$ to $h_{(+1)}$, to be used in the calculation of the competition dependent Confidence limit factors:

Adjustment	-4/RO	-3	-2	-1	+1
Symbol	$\mathbf{g_{(-4)}}$	$\mathbf{g_{(-3)}}$	$\mathbf{g_{(-2)}}$	$\mathbf{g_{(-1)}}$	$\mathbf{g_{(+1)}}$
Value	-0.53	-0.88	-1.37	-1.96	3.5
Adjustment	-4/RO	-3	-2	-1	+1
Symbol	$\mathbf{h_{(-4)}}$	$\mathbf{h_{(-3)}}$	$\mathbf{h_{(-2)}}$	$\mathbf{h_{(-1)}}$	$\mathbf{h_{(+1)}}$
Value	-0.73	-0.55	-0.30	0	0

Also in the light of experience the Confidence limit adjustment values $\mathbf{a_{(k)}}$ for the adjustment ranges, $a_{(-4)}$ to $a_{(+1)}$ have been changed so Paragraph 2.3 effectively becomes: (only the table values have been changed)

2.3 The Confidence limit adjustments $\mathbf{a_{(k)}}$ for the adjustment ranges, $a_{(-4)}$ to $a_{(+1)}$:

Adjustment	-4/RO	-3	-2	-1	+1
Symbol	$\mathbf{a_{(-4)}}$	$\mathbf{a_{(-3)}}$	$\mathbf{a_{(-2)}}$	$\mathbf{a_{(-1)}}$	$\mathbf{a_{(+1)}}$
Value	0	0	0	1	0

Paragraphs 3.1, 3.2 and 3.3 remain unaltered.

Paragraph 3.4 has been split and replaced by a two-step procedure as follows:

3.4.1 Calculate the competition dependent Confidence limit factors $\mathbf{f_{(k)}}$ using the values of E (3.2), V (3.3) and the appropriate base factors $g_{(k)}$ and $h_{(k)}$ (2.2):

$$\mathbf{f_{(k)} = g_{(k)} + (h_{(k)} * E / V)}$$

for all k = -4, -3, -2, -1, +1.

3.4.2 Calculate the unadjusted Confidence limits $\mathbf{C_{(k)}}$ using the values of E (3.2), V (3.3), the appropriate Confidence limit factors $f_{(k)}$ (3.4.1) and the Confidence limit adjustment factors $a_{(k)}$ (2.3):

$$\mathbf{C_{(k;\ unadjusted)} = E + (f_{(k)} * V) + a_{(k)}}$$

for all k = -4, -3, -2, -1, +1, rounded to the nearest integer value.

Paragraphs 3.5 and onwards remain unaltered.

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