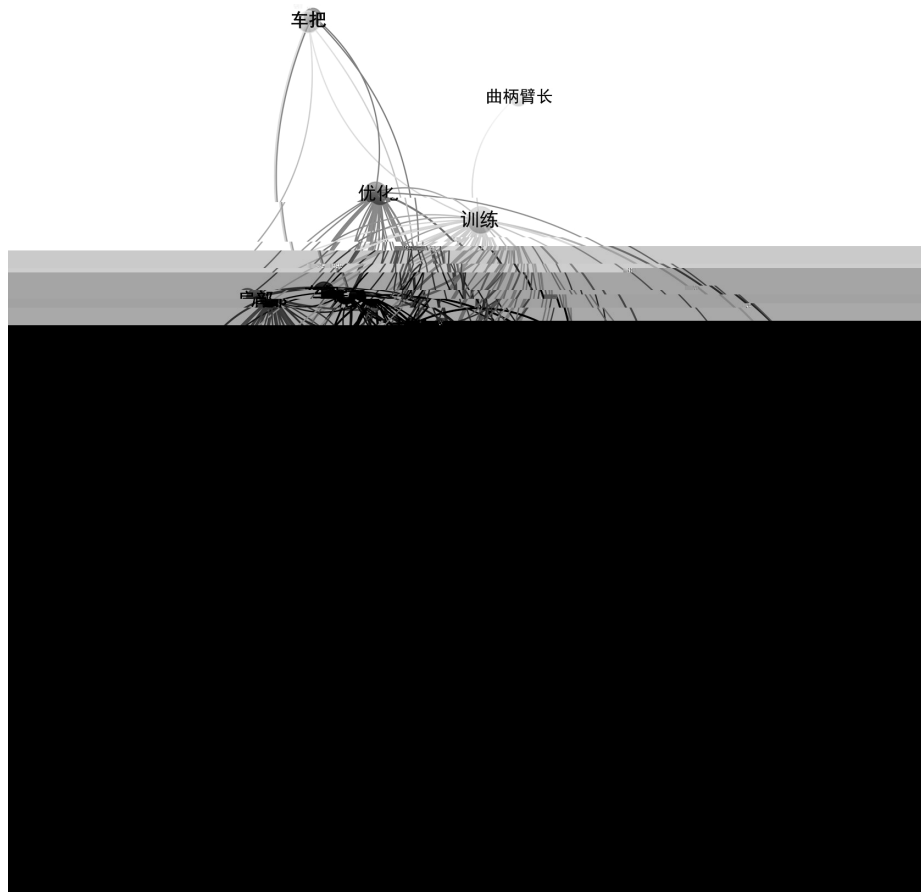




2023 1

Bini 7

2000 1 — 2023 1



1. 1. 2. 3. 4.



	bike bicycle saddle height saddle position saddle angle pedal handlebar frame configuration crank arm fit fitting posture	comfort performance economy oxygen uptake power output efficiency	muscle joint injury nontraumatic hand neck lowback pain
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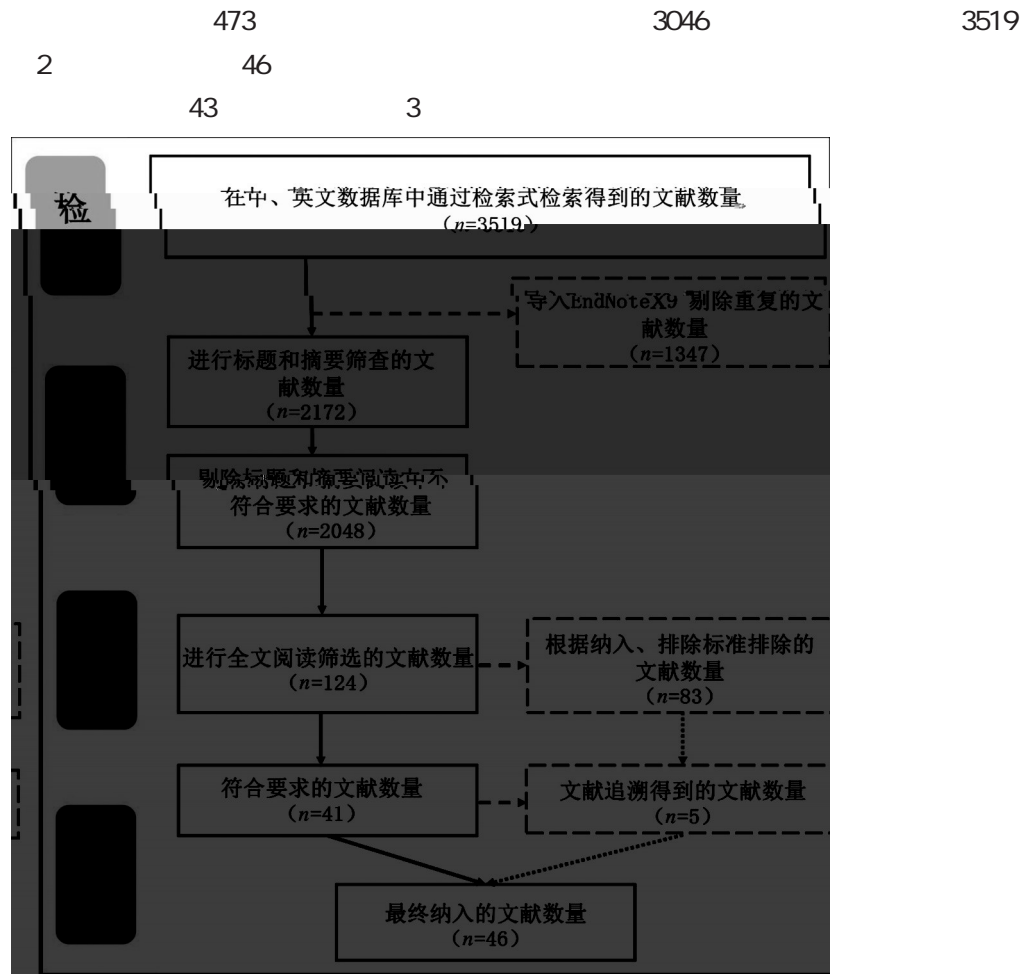
1 2  
3 4 5  
1 2

3 4

AXIS 5 20

17 9 /17

90%~100% 80%~90% 70%~80% 60%~70% 60%



2

3 33 7 2

1

5

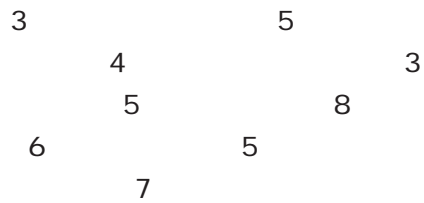
20

Bottom Dead Center BDC

109%

2

5



					%
10	9	22~36		±3cm	13 76
11	18	29.19±0.28	+	+BDC -	14 82
12	14	57.14±6.37	BDC +20°	40° +30°	15 88
13	14	32.6±5.6		±2% GE	14 82
14	9	22~36		±3%	14 82
15	12	31.7±5.9	±2.5%		15 88
16	10			±2%	15 88
17	20	25.4±1.3	BDC	25° ±15°	15 88
19	20	25.4±1.3	±15°		15 88
21	10	22.5±0.9	BDC	25° +35° 35° 25°	13 76
22	20	23.4± 0.5	BDC	25° ±15°	14 82
23	11	28±5		109% BDC 25° +35° BDC 25°	14 82
24	10	25.2±1.3	±15°		15 88
25	9	25±3.4		±1cm	14 82
26	16	29±10	BDC +40°	20° +30°	14 82
27	9	29.55±5.19		109% ±2.5%	14 82

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28	10	24.4±5.9		±10°		16 94
62	24	36±14		±10°		
63	10	23.4±6.6	±2 cm	109%		
64	24			±10°		

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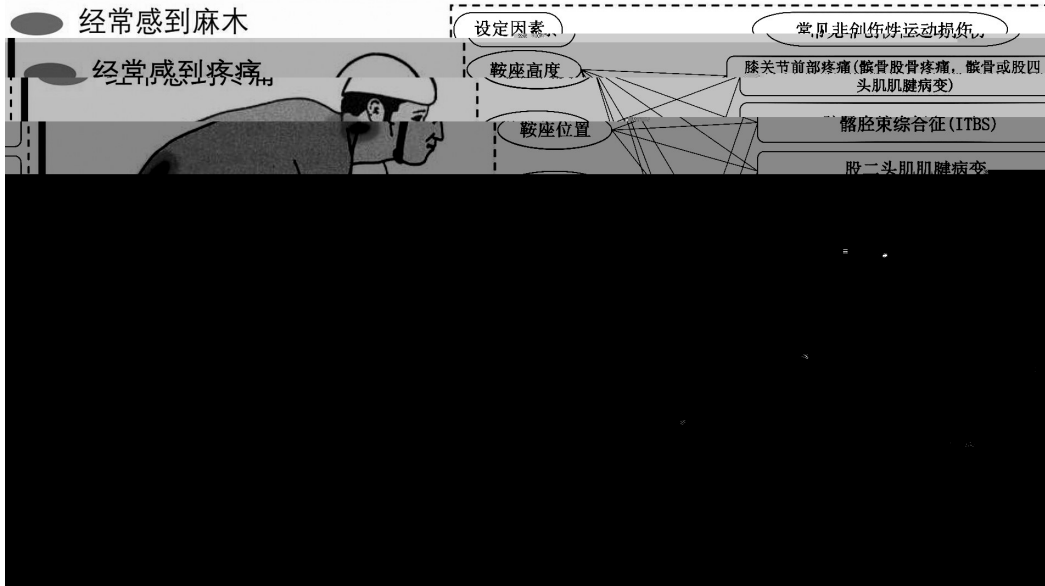
				%
42	26			10 59
44		22.4±1.4	+	13 76
45	9	21.6±1.9	+	14 82

				%
46	16	29±7	120+145+170+195+220 mm	15 88
47	15	19-44	150+165+170+175+190 mm	14 82
48	15	19-44	150+160+170+175+190 mm	15 88
49	7	26±3.8	170+172.5+175 mm	13 76
50	12	20.8±2.8	172.5-175±5 mm	15 88
51	11	21.5±3.0	127+140+152+165 mm	15 88
52	11	26.6±3.8	110+145+180+230+265 mm	13 76
53	14	25.9±6.9	175+145 mm	14 82

				%
57	13	31±8 28±12		14 82
58	17	30.4±3.4	+	14 82
60	11	26.8±8.9		14 82
65	4	21.8±2.5	+	11 65
66	15		+	13 76

4

3



3

100%  
4

106%~109%  
10

BDC  
11

11-12

13

±3%

14

70rpm

70W

Moura

100W

±2.5%

15

16

Wang

17

18

19

20

Chang

BDC

35°

21

BDC

25°

BDC 35°

25°

10

25°

23

/

24

BDC

22

35° 109%

BDC

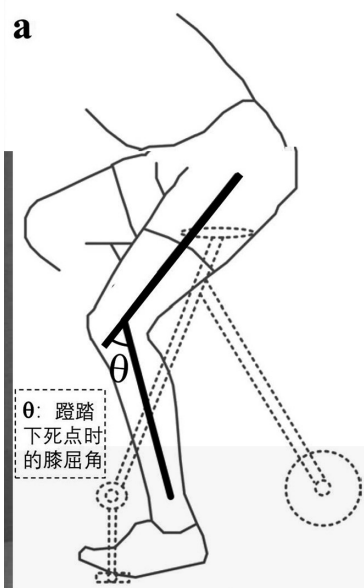
25

11

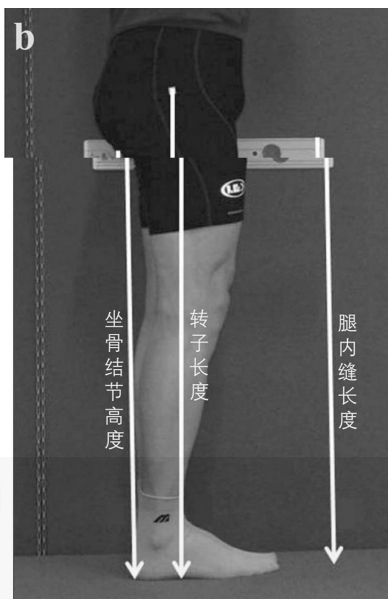
26

feeling scale

27-28



a



b

4

29

30

31

32



30

37

34~41kPa

38

18kPa<sup>39</sup>.

b

39 37 n

165~175 mm

47

48

175mm 3.29±0.76s

170mm G

100%                      106%~109%                      BDC                      25°

20%                      41%

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## **The Effect of Bike Fitting on Non-traumatic Sports Injuries and Cycling Performance**

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Bike Fitting means to use the sports biomechanics ergonomics and other knowledge to analyze the various components of the bike to match it with the rider's setup parameters best and then to use the relevant tools to debug/optimize the bike which mainly involves six aspects saddle height saddle position angle saddle shape handlebar and frame crank length and pedals. Adapted bike fitting can effectively prevent non- traumatic sports injuries and enhance sports performance during long- term cycling. By reviewing and evaluating domestic and international studies on the effects of bike fitting on cycling in the China National Knowledge Internet CNKI Web of Science and PubMed databases let more professional coaches researchers and athletes will be able to understand and value this aspect of knowledge which will help to reduce cycling- induced injuries and improve athletes' cycling performance.

Cycling Bike Non- traumatic Sports injuries Cycling performance