



Las Fortalezas
ULTRA BIKE RACE

Instituto de Fisiología del Deporte

LAS FORTALEZAS UBR 2017

. @AC> 6C2 G6J D6 G2 2 46-63C2C 6DE2 ACF 632 56 F-EC2 C6DDE6? 4:2 I 4@? 7:2> @D 6? BF 6 D6CP? > F 492D =2D 65:4@? 6DBF 6 E6? 5C6> @DA@C56=2? E6' ' =@ 56A6? 56P 56 > F 49@D 724E@C6DA6C@F? @AC? 4A2=D6CP D @DBF 6 G2D 2 4@C6G=2 5:DXF EP:D' 4@? 6=C64@C5@' 4@? 6=A2D26" 4@? =2 4F #F C2 I =2 9@DA: E2=525 56 =2DA@3=24@? 6D A@C =2D BF 6 EC2? D4F C@6" A@C 6=4=> 2 BF 6 ?@D 24@> A2T 6" I E2> 3:O? A@C =2 D2E:D7244:V? 56 E6C :? 2G2 I =2 42A24:525 56 C64FA6C2C? @D @> PD(CPA:5@A@D3=6 56 7@C> 2 BF 6 A@52> @DD68F:C5:DXF E2? 5@56=5R2'

. 2C2 E@5@D @DBF 6 @D923QDA@AF 6DE@6=C6E@' 4@? 6=@3:6E@ 56 BF 6 A@5P:D5:DXF E2C2" > 2? E6? 6CI > 6@C2C 6=C6? 5:> :6? E@ 56A@CEG@ 4@? AC@5F 4E@D BF 6 4F:52CP? GF 6DE2 D2F 5" 92? A65:5@ 2= &AE@ CQ4?:4@ 56 *? 7DA@E 4@=23@C2C6? =2 6=23@C24V? 56 @D 2G EF 2=> :6? E@DI @DA@A@? 6> @D =2DD 8F:6? E6DA2FE2D

) 2I BF 6 4@? D56C2CBF 6 @D 724E@C6D? FEC4@? 2=6DBF 6 :? 4:56? 6? 6=C6? 5:> :6? E@I BF 6 5636> @D 4@> A6? D2C 4@? =2? FEC4V? 56A@CEG2" D@? 4F 2EC@

I. Hidratación

II. Reposición energética por el gasto calórico

III. Recuperación y reducción del catabolismo (desgaste) muscular

IV. Proteger el organismo

I. HIDRATACIÓN

&636> @DA@A2C2C? F 6DE@ @C82?:D> @ 363:6? 5@2 A6BF 6T @DD@C3@D' **600 ml de agua en los 90' previos** 2 =2 4@> A6E 4V?" @2=> 6? @D **400 ml en los 60' previos**
 +2 AQC5:52 56 **electrolitos**" 2=:8F 2=BF 6 6=28@E2> :6? E@56 @D 56AVDE@D 56 8F 4V86?@' => :E2 6=C6? 5:> :6? E@ I 256> PD 2764E2 D6C2> 6? E6 2 =2 D2F 5" +2 G6=@4:525 56 C69:5C2E24V?" 6D > F 49@ > PD =6? E2 BF 6 =2 56 9:5C2E24V?" A@C @BF 6 6=AC@E@4@> 2 D68F:C' D6> AC6 6D 2 > @5@AC6G6? EG@I 6? 6=EA@56 6D F 6C@ BF 6 6DE2 @D 6G2F 2? 5@6D C64@> 6? 523=6 :C6A@?:Q? 5@> 5F C2? E6 6=6:6C4 4@' +@D @C82?:D> @D 56 > 65:4? 2 56= 56A@CE6 E2? E@ ? 24@? 2= 4@> @ :? E6C? 24@? 2=6D' C64@> :6? 52? BF 6 A2C2 > 6: @C2C 6=C6? 5:> :6? E@ 56A@CEG@I AC@E686C =2 D2F 5 56=56A@CEDE2" =2D 363:52D 56 C69:5C2E24V? 5636? 4@? E6? 6C @D 6=64EC@=H@D 4FI 2 C6A@D4V? 6D 3PD42" 6? DFD 42? E5256D :5V? 62D' 2DR 4@> @ @EC2 D6C6 56 AC? 4A:@DBF 6 6? DF 4@? :F? E@A6C82? 6D@D> :D> @D 7? 6D

II. REPOSICIÓN ENERGÉTICA

II.a Desayuno el día de la prueba

' D 4@? C6?:6? E6 BF 6 56D2I F? 6> @D 2=> 6? @D **2 ½ horas antes** 56=:?:4@ 56 =2 42CC6C2" E@> 2? 5@ 2BF 6=@D AC@5F 4E@D BF 6 D@> @D 4@? DF > :C 923:EF 2=> 6? E6 D? BF 6 DFA@? 82 F? 6H46D@' 4@? F? 2 3F 6? 2 32D6 56 9:5C2E@D 56 42C3@?@ /: BF 6C6> @D 4@> 6CF? A=F E2? @ 6DE6 6D 6=> 6: @C> @> 6? E@ A@BF 6 5636> @D 6GE2G@ 5FC2? E6 =2 42CC6C2" +2 AC@A@C4V? 6DE@> 2Ct. j 8 56) :5C2E@D 56 %2C3@? @A@C<8 56 A6D@ 4@A@C2=

II.b Reposición Energética durante la carrera

' = 28@E2> :6? E@ 56 @D 56AVDE@D 56 8F 4V86?@ E6? 6 4@> @ 4@? D64F 6? 42 :? > 65:2E2 =2 42R52 6? 6=C6? 5:> :6? E@I 6=2F > 6? E@ 56 @DE6> A@D 56 C64FA6C24V?" 1? 2 G6J BF 6 6DE@4F C@6 5FC2? E6 6=6:6C4 4@' ?@ 6DA@D3=6 C64FA6C2C6=> :D> @?:G6=56 C6? 5:> :6? E@' =AC@E@4@> BF 6 6GE2 6? EC2C6? 9:A@8F 46> :2' D6 5636 C62=J 2CD6> AC6 56 7@C> 2 AC6G6? EG2 A@C @BF 6 6D 24@? D6; 23=6I



Las Fortalezas
UltraBike Race

- %> 6?J2C =2 :?86DE2 56 ?FEC4V? 56A@EG2 6DA64R742 a partir de 30' ó 40' de la salida ' D 64@> 6?523-6 BF6 E@> 6> @D@C@5F4E@D BF6 4@?E6?82? R?5:46D8F4Q> :4@D2E@D > @56C25@D I 56 =36C24V? D@DE6?:52" E6?:6?5@6? 4F6?E2 BF6 @ BF6 AF656 2D> :2C6=@C82?:D> @ 6D1gr/min"" @ BF6 ?@D52C@F? 4@?DF> @56 60gr/hora 1? 4@?DF> @> 2I @CAF656 A@G@42C6764E@D?@56D625@D 6? ?F6DE@@C82?:D> @
- +2 - C82?:J24V? 92AC6GDE@6? @D2G@F2=> :6?E@D5:DA@?6C56 F? GEL ORAL y F?2 32CE2 FASTER BAR" BF6 6? 4@?:F?E@2A@CE2? Lfi 8C56 9:5C2E@D56 42C3@?@56 C6A@D4V? 6?6C8CE42 :?> 65:2E2 I 2E2 2D> :24V? O2> 3:Q? D6 2A@E2P 6? fi 56 @D 2G@F2=> :6?E@D F? G2D@ 56 VITALDRINK 56 Infisport BF6 4@? =6G2 F? 2A@E6 E@E2=56 @E@D E I 8 56 9:5C2E@D56 42C3@?@ I @D 6-64E@=E@D BF6 6? A2E6 G2> @D 2A6C56CA@C6=DF5@C
- /: AC6G6> @D BF6 =2 . CF632 G2 2 5FC2C 4:00 horas" 5636C@> @D C6A@?6C 6?E@6 200-250 gr 56 9:5C2E@D 56 42C3@?@ ' DE2 D6C@ =2 DF> 2 56 E@5@ @ BF6 :?8C2> @D 32CE2D' 86-6D' 363:52D 6?6C8CE42D' 6E4' #56> PD D6C@ 4@?G6?:6?E6 565:42CF? A@4@ 56 E6> A@6? @D 2G@F2=> :6?E@D BF6 =2 @C82?:J24V? 56 =2 42C6C2 5:DA@?5C 4@? 28F2" 7FE2DI 56> PDA2C2 C6A@?6C7F6CJ2D' A@BF6 4@? 6=@4@?D68F:C6> @D> 6;@C6D6DF E25@D' E2?E@ 7D4@4@ @56 C6?5:> :6?E@6? 42C6C2"

II.c Reposición Energética después del ejercicio

&FC2?E6 @D L/ KD8F:6?E6D 2 =2 7?2=J24V? 56=6:6C4@' D6 5:DA@?6 56 =2 => 252 G6?E2?2 > 6E23V=42 BF6 @AE> :J2 2=> PH> @ =2 2D> :24V? 56 @D?FEC6?E6DI BF6 5636> @D 2A@G6492CA2C2 C62=J2C=2 C642C82 56= 8F4V86?@FE=J25@&FC2?E6 6DE6 E6> A@6=@C82?:D> @ 2D> :2 6?E@6 1 y 1,5gr/kg 56 9:5C2E@D56 42C3@?@

+2 - C82?:J24V? @7646CP 6? 6=DE2?5 56 Infisport 6? A@E > 6E2" F?2 363:52 4@> AF6DE2 A@VITALDRINK I ND3 CÍTRICO 4@? :?8C65:6?E6D2?E42E23V=4@D' C64FA6C2?E6D' 5672E82?E6DI 2?E@H52?E6DBF6 @D 2I F52CP? 2 C64FA6C2@D CPA:52> 6?E6 . 2C2 4@> A=6E2C =2 9:5C2E24V?" 563QD 82C2?EJ2C@D 3636C2=> 6?@D fi =E@ 56 =BF:5@D' 6?E@6 28F2I JF> @D

III. RECUPERACIÓN Y REDUCCIÓN DEL CATABOLISMO MUSCULAR

+2 :?E6?D525" 5FC24V? I 764F6?42 56=6D7F6CJ@' D@? =2D G2C23-6D BF6 :?5F46? 2 F? > 6?@C @ > 2I @C 42E23@=D> @> FDF =2C

+2 ?FEC4V? 56A@EG2 6DA64R742 A2C2 6DE6 7?" 6D6=2D25@56 DF6C@ P4E6@I @D2> :?@P45@D C2> :7425@D "\$422X 4@? 2E@4@?E6?:5@6? +6F4?2) 2I BF6 C6D2=E2C BF6 =2 C65F44V? 56=42E23@=D> @> FDF =2CEC2D6= 6D7F6CJ@' 6D> PD6764EG2 4F2?5@=2 :?86DE2 56 2D25@56 DF6C@I I \$422X' G2 24@> A2I 252 56 42C3@?9:5C2E@D 56 2E@R?5:46 8F4Q> :4@ . @C6=@6D64@> 6?523-6: ?86CCF? 32E5@56 TOP 50/50 @56 COMPLEX 4:1

' D:> A@CE2?E6 BF6 @D@C@E@4@=@D 6HAF6DE@D 2 4@?E?F24V? D6 AC24E BF6? I =6G6? 2 423@' ?@D@=6=5R2 56 =2ACF632D?@6? 6=A6C@5@56 6?E@6?2> :6?E@' 3FD42?5@5@D@3;6EG@D

fi" %@?D68F:C =2 adaptación 56= @C82?:D> @ 2 DF FE=J24V?" 82C2?EJP?5@?@D DF E@6C2?42 I 246AE24V? 56 42C2 2 =2 4@> A6E4V?

fi" Reducir el tiempo de recuperación 6?E@6 D6D@?6D' BF6 6? 4@?D64F6?42 A6C> :ECP > 6;@C2C6= C6?5:> :6?E@I =682C2=5R2 56 =2 4@> A6E4V? D? 42C6?42D?FEC4@?2=6D

PROTOCOLO PARA ENTRENOS Y COMPETICIONES

Hidratación + Reposición Energética

- +6G2CF? 3:5V? 4@? **VITALDRINK** 1/ 8C Ž// > =56 28F2" 6> A6J2?5@ =2DE@ 2D2 A2CEC56 =@D/ / ŽX4252I E@ 2CF? 3:5V? 4252 Ž/ KA@C6=4=> 2 BF6 D6 DFA@? 6 G2 2 9246C
- . 2C2 6?EC6? @D DFA6C@C6D 2 =2D fi L 9@C2D' :562=> 6?E6 > 6J4=2C **VITALDRINK y ND3 Cítrico (V-N)** 56 7@> 2 BF6 2=> :D> @ E6> A@ ?@D 2I F56 2 5672E82C I C64FA6C2C +2 AC@A@C4V? 56A6?56P 56 =2E6> A6C2FFC2I fiV 8C: / 8C(V-N) 4@? E6> A6C2FFC2D> 65:2DI t/ 8C:fiV 8C (V-N) 4@? E6> A6C2FFC2D6-6G252D' 6? 2> 3@D42D@D> 6J4=25@D4@? Ž// > =56 28F2

Reposición energética, a partir de los primeros 60'

- 0@> 2Cfi **GEL ORAL** @fi **FASTER BAR** | C6A6EC4252 t/ W@3:6?
- 0@> 2Cfi **ND3 SÓLIDO** @ **ND3 CROSS UP** | C6A6EC4252I ŽX
 . 2C2 4@? D68F:C 6= > 6: @C C6?5: > :6?E@' 6D 4@? G6?:6?E6 :C > 6J4=2?5@ =@D AC@5F4E@D 2?E6C@C6D

Recuperación

- /: 2=7?2=J2C6=6?EC6? @ 4@> A6E4V? G2> @D2 4@> 6C" A2DE2 @A26=2' C64@> 6?52> @DE@ 2C 2?E6Dfi 32E5@56 **TOP 50/50 EVO LEUCINA+**
- /: A@> @EG@D56 G26DF @EC@D G2> @D2 E252C> PD56 fi 9@C2 6? 4@> 6C" C64@> 6?52> @D 6? 6DE6 42D@E@> 2Cfi 32E5@56 **COMPLEX 4:1**
- /: 6=6DF6CJ@G2 2 D6C" t 9@C2D' E@> 2Ct 4PADF =2D56 **BCAA'S** fiV > :?FE@D2?E6D' I t 4PADF =2D 2=7?2=J2C
- /: 6=6DF6CJ@G2 2 D6C" t 9@C2D' E@> 2Ct 4@> AC> :5@D56 **GLUTAMINA + ZINC** fiV > :?FE@D 2?E6DI t 4@> AC> :5@D2=7?2=J2C

Nota: . 2C2 82C2?EJ2C F?2 4@C64E2 9:5C2E24V?" 92I BF6 24@DF> 3C2C 2= @C82?:D> @ 2 :?86CC F?2 56E6C> :?252 42?E525 56 28F2 A@C9@C2 56 6:6C4:4@' +2 42?E525 C64@> 6?5252 A@C =2D5:DE?E2D6?E5256D 56 > 65:4?2 56=56A@CE° @D4=2 6?EC6 **600 y 900ml/hora** /6 E6?6 6? 4F6?E2 =2 BF6 =6G2 6=A6A2C25@56 **VITALDRINK y/o ND3** +2 :?86DE2 56 32CCE2D' 86=6D' I 4F2-BF:6C@EC@AC@5F4E@5FC2?E6 6=6DF6CJ@5636 D6C 24@> A2T252D6> AC6 56F? EC28@56 28F2"

VITALDRINK 6DF?2 363:52 =86C2> 6?E6 9:A@EV?:42 BF6 4@?E6?6 =@D 6=64EC@=E@D I C6DE@ 56 4@> A@?6?E6D BF6 AC6DAC36? I C64@> :6?52?!



~" +2 (656C24V? ' DA2T@2 56, 65:4?2 56=&6A@CE" 6=%@68@#> 6C42?@56, 65:4?2 56=&6A@CE I 6= %@?D6:@' FC@A6@56 *?7@> 24V? #=> 6?E42