



Injuriе/Muscular group	Symptom/Discomfort	Likely Cause	Bike Fitment Solution	Muscular Weaknesses
SPINAL INJURIES	Lower Back pain	Stem too low or too long; must strain back to reach bars; or seat may be too high, causing rocking when pedaling	Try raising the stem/handlebars; still hurts? try shorter stem; check and adjust seat height	Bridging on back
	Neck hurts	Stem too low	Raise the stem/bars	
HIP INJURIES	Hip Flexor Injuries	Saddle too low, closed hip angle	Raise saddle	Bridging on Side
KNEE INJURIES	Front of knee hurts	Seat too low and/or too far forward, straining knees	Raise seat; may need to move seat further back as well	Bridging on side one leg under one leg over
	Back of knee hurts	Seat too high, over-extending leg	Lower seat	Bridging on side one leg under one leg over
	Side of Knee hurts/ITB	Seat too high, over-extending leg	Lower seat	Bridging on side one leg under one leg over/Bridging on Side
	You're always moving forward on the seat	Stem may be too long so you pull yourself forward as you ride; saddle nose may be tipped down too much	Install a shorter stem; level saddle	
	You're always moving back on the seat	Stem may be too short so you feel cramped and push yourself back; saddle nose may be tipped back; saddle may be too far forward on the rails	Install a longer stem; level the seat and center it on the rails; move your seat back	
FOREFOOT / MIDFOOT / ARCH INJURIES	Suffer "hot foot" on rides (painful burning sensation)	Shoes too tight, or cleats too far forward on your shoes	Loosen shoe straps or buy better fitting cycling shoes; move cleats back on your shoes	
LOWER LEG INJURIES - CALF & SOLEUS				Bridging with 90deg bend, Bridging on back
UPPER LEG INJURIES	Tight Hamstrings	Saddle too high, saddle too far back, saddle nose too high in the air.	Lower and straighten	Bridging with 90deg bend, Bridging on back
UPPER LEG INJURIES - QUADRICEPS		Saddle too low	Lift saddle	
ABDOMINAL INJURIES				Front Bridging
HAND INJURIES	Hands hurt	Handle bars too low; too much weight on hands; saddle may be pointed down	Raise the stem/bars; level saddle, check grip tape	
LOWER LEG INJURIES - ACHILLES ANKLE INJURIES	Achilles tendon hurts	Pedaling too much on your toes; cleats too far forward on your shoes; feet may not be forward enough over the pedal	Keep the balls of your feet over the pedals when you're pedaling; move cleats back.	
	Numb bum all the time	Too much weight on the seat; may need to slide back a little on the seat. Try to sit such that you feel the weight on your sit bones rather than the front or center of your crotch	Lower handlebar position; check seat height as it may be too high; May need to try another brand of shorts and or seat	

Extra Bike-Fit Tips

Once you've found the correct seat height, mark the seat post. Please do this before you travel. This way—if the post slips, or when you pack the bike for shipping—you'll quickly be able to get it back in the right spot. Early in the season you're not as flexible and you'll probably enjoy a higher handlebar position. As you ride more regularly, you'll gain flexibility and may want to lower the bars to stretch out a bit more. Women often require additional changes such as saddles, narrower handlebars, shorter stems and easier to operate brake levers.

info based upon bike fitment experience and research credit



Books:  
Mastering MTB Skills  
Zinn and the art of triathlon bikes