



**bottom of the toe starts skinning even after many applications of creams and wintergreen rub, extra socks, different shoes and so on. In the warmer summers my feet return to normal. Why is this happening? Is it, perhaps, frostbite?**  
**Clive Egginton**

between them. Increasing the number of sprockets in a rear cassette reduces the size of the steps between ratios, which generally makes it more likely the user will be able to find a comfortable gear or cadence in any given circumstance.

Packing more sprockets into much the same space on the freehub body requires a chain narrower in external width, which manufacturers have achieved by using thinner side plates. This hasn't resulted in a weaker chain. SunRace chains, for example, are rated at 820kgf (kilogram-force) whether 10-, 11- or 12-speed. Anecdotally, narrower chains may even be less likely to break in use as they are more flexible laterally.

Breakage is more likely to occur with poor shifting technique, while there's some suggestion that narrow chains wear more quickly, especially when used on e-bikes. Perhaps the easiest way to accidentally overload a chain is to use a very small front chainring (28t or smaller) if you are a heavy or powerful rider, especially when using long cranks.

**Richard Hallett**

## Health

### Cold feet

**Q** Over the past winters I have suffered from very cold feet while cycling. Two toes, one on each foot, get very sore at the ends. The

Flat pedals? These £39.99 Quechua SH100 hiking boots are rated to -20°C



**A** The likelihood is that you have old-fashioned chilblains on your toes. Sometimes called perniosis, chilblains are itchy, swollen and painful lumps or patches on your skin. They form after exposure to cold but not freezing temperatures. They usually affect the fingers and toes but can also appear on the nose and ears.

Chilblains do not cause lasting damage. They usually heal in a few weeks. They're not the same as frostbite, which is more serious, but the affected area might stay sensitive to cold after they heal.

Prevention involves avoiding the cold, wearing warm clothing on the extremities and avoiding damage to the circulation, which can be caused by smoking cigarettes. Treatment may include applying moisturisers, massage of the limb or dressings to the lesions. If you are suffering badly, your doctor can prescribe a mild steroid cream for the irritation or medication to improve the circulation.

**Dr Kate Brodie**

## Technical

### Tougher bike paint

**Q** I've got an old singlespeed bike frame that I've stripped down and I want a really hard-wearing, bomb/rust-proof paint for it. I'm not too fussy about colour; I just want it to be very hard wearing as it's just a town bike. Any good recommendations? I saw there's such a thing as container and skip paint.

**Wilhelm, on the Cycling UK forum**

**A** The easy answer is Hammerite or similar. It's easily applied with a brush, available in a good choice of colours, and has the great advantage for your purposes of rendering the cycle highly unattractive. It can be applied over

rust and can be touched up using what's left in the tin should it get scratched.

For a more pleasing finish, you may consider getting the frame powder coated. A search online should turn up outfits local to you. A powder-coat finish is highly durable. This is less true of 'rattle can' spray paint, which can be done well but may end up as the worst finish you can achieve.

**Richard Hallett**



## Technical

### Bearings: caged or loose?

**Q** With 1-inch threaded headset bearings, is it better to keep the cage with the ball bearings in or discard it to put in loose bearings?

**roger72, on the Cycling UK forum**

**A** The cage is for convenience: it eases assembly and stops the balls going everywhere when the bearing is taken apart. But it usually reduces the number of balls that can be installed. This, in turn, increases the pressure load on each ball's contact point with the bearing races, making them more likely to suffer indentation or 'brinelling', which will make the bearing notchy and the steering unpleasant. So for longevity, use a full complement of balls.

On the other hand, caged balls may encourage servicing and thereby extend bearing life. It is possible to buy 1-inch threaded headsets with roller and even cartridge bearings, which generally perform better than either loose or caged balls.

**Richard Hallett**



## Get in touch

**EMAIL** your technical, health or legal questions to [editor@cyclingsuk.org](mailto:editor@cyclingsuk.org) or write to Cyclopeda, Cycle, Cycling UK, Parklands, Railton Road, Guildford, GU2 9JX. Cycle magazine cannot answer unpublished queries. But don't forget that Cycling UK operates a free-to-members advice line for personal injury claims, **TEL: 0330 107 1789**.