

BREASTSTROKE KNEES (These are principles followed over months/years, not days/weeks!):

Knees to a breaststroker are like elbows to a pitcher. You are putting strain on a joint in a direction it was not designed real well to take at the levels you need to train to compete at the highest level

BIG STEP ONE: You can help this by keeping you're knees inside your hip while swimming – all strokes, all the time, especially breaststroke!

The following is the GCY Swim Team recommendation for knee pain – take these precautions and follow these steps when experiencing knee pain – if problem persists and affects performance/practice time, please get seen by a specialist and show them what we've recommended below!

At GCY – we strongly believe in RELATIVE REST: The term “relative rest” refers to resting the affected injured joint while maintaining fitness and strength in the rest of the body.

As you compete in breaststroke be very careful with your knees and follow these tips when feeling/recovering from knee pain:

In the pool:

- Warm up swimming breaststroke very slowly and slowly build up to full speed.
- Never just breast kick DURING PAIN as that increases the strain on the knees.
- Keep the knee in the alignment with the hip allowing the knees to separate only to the width of the hips. This will decrease the lever arm toward a valgus stress at the knee as the legs are brought toward midline.
- Focus on the VERY IMPORTANT ankle flexion and finish of your breaststroke kick where the knees are not as involved
- When you feel any pain swimming breaststroke stop breaststroke kick for the day, finish the set breaststroke with our awesome drill: pull, breathe, dolphin kick, then freestyle kick to next pull (during extension/glide phase) and immediately ice your knees after workout.
- *Remember, you are always cross training with other strokes to reduce valgus stress on knee – in the water is the BEST cross training for this stroke.*

- *BR pull speed = BR kick speed – work on this aspect of your breaststroke during kick set and you can stay on same intervals.*
- *Do not bend knees during dolphin kick – UNDULATE through hips/core! If your other kicks are also hurting you are using your knees too much!!!*
- *Think North/South with your kick – avoid the East/West direction! This includes breaststroke kick, other strokes and ESPECIALLY with push-offs! Keep your knees and keep width inside hips!*

Out of the pool:

- Ice/ Elevate
 - Sounds simple BUT do this OFTEN and ALWAYS!!! If you have a tendency to develop knee pain, ICE after swimming as a prevention method!
- Strengthen
 - Stationary Bike
 - Leg Extensions to strengthen quadriceps – FOCUS on the the top 45 degrees of the extension an do not lock knees at top!
 - Calf/Shin Exercises (work on ankle flexion to focus on the important phase of the breaststroke kick where knees are not as involved).
- Warm-Up/Stretch
 - Walk on deck with high knees
 - Frankensteins
 - Slow/Easy sidesteps
 - Half squats (45 degrees vs doing 90, keep knees aligned, don't let them go lateral)
 - Standard stretching after muscles are warm with emphasis on NOT locking the knees an NOT letting knees get lateral.
- Daily Habit – NEVER lock your knees!
 - See if you can go an entire day without locking your knees (walking, standing, etc.)
- Knee Brace/Bands
 - A patella **band**, a thin pressure strip worn under the **knee**, can help alleviate the pain
 - Knee Brace – also used to control patella movement.
 - TIP: IF YOU HAVE A TENDENCY TO RE-DEVELOP KNEE PAIN – WEAR EVEN WHEN NOT EXPERIENCING KNEE PAIN!!!

