

**Try these moves**

Limber up with these strengthening and stretching tips by Assistant Professor Benjamin Soon, who is in charge of a new physiotherapy programme at the Singapore Institute of Technology (SIT). They are

demonstrated by SIT student Brian Oh, a rock climbing enthusiast.

Pull your body up with both hands and, in one continuous motion, lunge upwards and use one hand to grab onto a higher sphere. Alternate the sequence with your other arm to make your way up the board. Drop

down once you reach the top. Rest for five minutes and repeat. This tests the power and strength in the arms, finger flexors and back muscles such as the latissimus dorsi or lats.

**2. Training on campus board 2**  
Start from a lower rung. Hang onto it with the fingers of both hands. Pull up forcefully with both arms and reach for the highest rung possible with one hand. Hold briefly, then quickly drop back down to the starting rung. Repeat the movement using the other arm. Do this five or six times with each arm. This works the finger flexors, forearm muscles, shoulder muscles and the lats. Rest

for five minutes before performing another set. Do two to four sets. Alternatively, climb up the rungs like on a ladder, using the muscles in your fingers, shoulders and back.

**3. Fingerboard training**  
Hang onto the fingerboard with your fingers. Pull your body up halfway and hang in mid-air for about five seconds. Drop down and relax. Repeat the sequence 10 times. This exercise increases the endurance and strength of the finger muscles, biceps, shoulders and back muscles.

**4. Sitting hamstring stretch**  
Sit on the floor with both legs extended.

Bend forward and hold onto your toes with both hands. Keep the knees straight at all times. Stay in this position for eight seconds and repeat twice. This stretches the hamstrings and back muscles.

**5. Back stretching on all fours**  
Start in a push-up position with arms apart and the feet close together. Push your buttocks up into the air while keeping your elbows and knees straight. Keep your heels as close as possible to the ground. Hold this position for eight seconds and repeat twice. This stretches the hamstrings, calf and back muscles.

But climbing is not all physical. Climbing routes are like a puzzle. It takes patience, strategising and on-the-spot decisions to uncover the fastest and easiest route. The mind plays a big role in overcoming obstacles, for example, when one gets stuck in tough spots. The climber has to keep total control over his body, while staying calm enough to plot the next move, Mr Brian Oh said.

**GetPhysical**

# Rock climbing exercises both body and mind

**Engineering student trains in the sport to develop physical strength and mental agility**

**Ng Wan Ching**

In polytechnic, he would chase a ball around a field during rugby training. Then, Mr Brian Oh was more used to running sprints and open field tackles in the rough and tumble of rugby.

But the 24-year-old changed tack when he entered university and joined the rock climbing club.

Today, rock climbing is mostly what he does. He trains three or four times a week, and each session can stretch for five to seven hours.

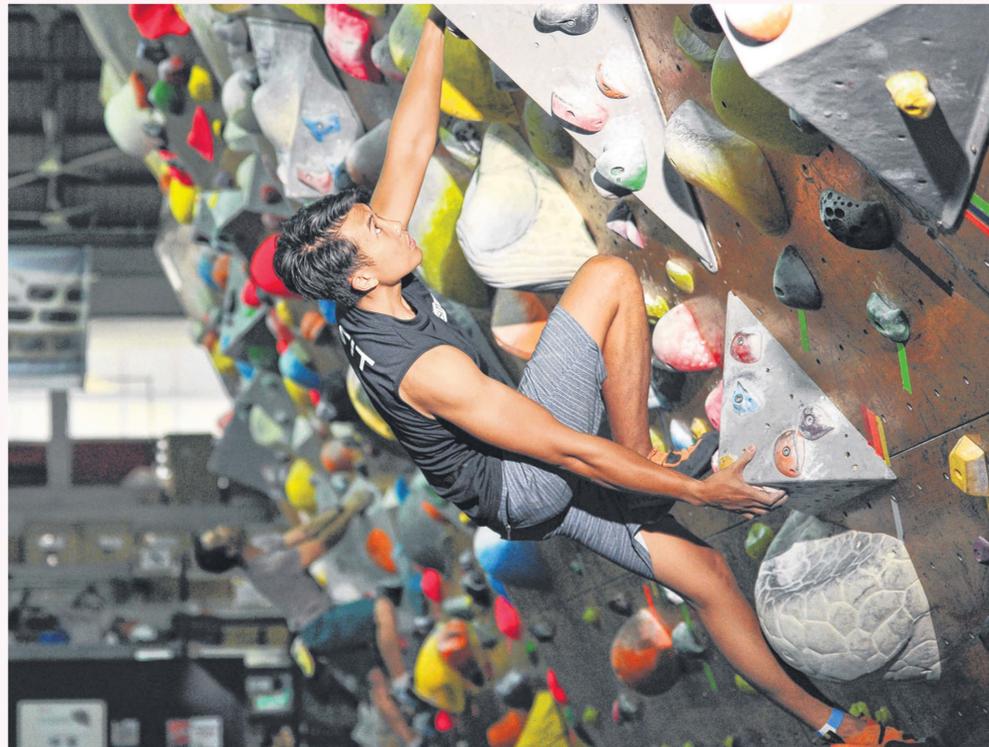
It was the adrenalin rush that made the difference.

"Rock climbing seemed to be an adrenalin-pumping sport. When I had the chance to satisfy my curiosity, it was indeed so and I was hooked," said Mr Oh, an engineering student at the Singapore Institute of Technology (SIT).

It trains the climber in all physical aspects so he can gain maximum control of his body, he added.

This is because rock climbing demands both dynamic and static movements. Performing these moves calls for the person to be in control of different muscle groups.

It has helped him develop lean muscle, improve agility and



Undergraduate Brian Oh was hooked on rock climbing after feeling the adrenalin rush of the sport. He now trains three or four times a week with each session stretching for five to seven hours. PHOTO: LIM YAOHUI FOR THE STRAITS TIMES

strengthen core muscles, leading to a stronger and less injury-prone body, said Mr Oh.

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on-the-spot decisions to uncover the fastest and easiest way. The mind plays a big role in overcoming obstacles, for example, when one gets stuck in tough spots. The climber has to keep total control over his

body, while staying calm enough to plot the next move, Mr Oh said.

He conditions his body by practising hanging on the hand board, working on core exercises and doing dynamic pull-ups. He also runs

to improve his cardiovascular fitness and, in turn, his stamina and endurance.

"Improving my cardiovascular fitness has also allowed me to recover quickly between bursts of effort while climbing," he said.

While he has not sustained any major injuries, he has strained his finger and elbow due to over-training and inadequate warm-ups.

Minor injuries, such as skin abrasions and bruises, are part and parcel of climbing, said Mr Oh.

His biggest challenge is improving his flexibility as there are certain climbs he is unable to complete as he is not limber enough.

The most vital part of his warm-up routine is stretching. It starts with basic stretches and flexing of the wrists, fingers, hands, forearms, triceps, shoulders, neck, back, glutes, thighs and calves.

He then proceeds to do traversing on the rock wall, followed by multiple light climbs before tackling more challenging climbs.

While Mr Oh has taken part in competitions, such as Gravitical, Pumpfest, Bouldermania, Rockmaster and the National Schools Bouldering Championship, he has yet to win a prize.

Besides climbing at rock climbing gyms here, he has visited such gyms in Malaysia and Britain.

**TOTAL BODY WORKOUT**

Rock climbing works the entire body, similar to a total body workout, said Assistant Professor Benjamin Soon, who is in charge of a new physiotherapy programme at SIT.

Physically, climbers need to work their core muscles to stabilise themselves while pushing or pulling their bodies up a wall.

The climber also needs to be able to stretch and move his body, arms and legs across the surface of the rock wall to reach for a good hold. This helps one increase joint flexibility and muscle adaptability.

In turn, this helps the climber work from unusual climbing angles.

The increase in heart and respiratory rates during rock climbing also gives the climber a good cardiovascular workout, said Prof Soon.

To prevent injuries, it is essential to incorporate movements that are used during climbing into a dynamic stretching routine, he said.

This can include lunges, high stepping, side-stepping, neck rotation, trunk rotation, shoulder rotation, wrist rotation, ankle rotation and abdominal stretching.

Also, do not forget about the fingers and wrists. Spread the fingers out fully and squeeze them into a fist a couple of times.

The main purpose of warming up is to get the blood pumping around the body and into the muscles that will be used the most, in this case, all of them, said Prof Soon.

Start with an easier climb to prepare the body and mind for the harder climb later.

The injuries related to rock climbing, if not from falls, are commonly due to over-straining of the joints and muscles. An example is when you reach your arm out to hold onto a ledge. This move raises your chance of muscle strains, in particular the rotator cuff muscles in the shoulder.

Finger injuries are also common in rock climbing when the small ligaments and tendons in the fingers cannot handle the stress placed on them. Ruptures in the ligaments holding the tendons against the fingers may result, in what is known as tendon pulley injuries.

It is important to understand your body and to allow yourself time to recover after each climb.

Avoid climbing when you feel pain as it can be a sign that your body is not ready to undertake the challenge yet, said Prof Soon.

Seek medical advice from a doctor or physiotherapist for your injuries.

The sport also includes the mental challenges of planning the best approach to do the climb and the use of good techniques in body positioning, balance, footwork and hand grips, said Prof Soon.

When done right, however, rock climbing can help you reap benefits in physical strength and endurance, as well as sharpen your concentration, analytical thinking skills and self-confidence.