

# Principles for backward bending



## Benefits of back bending

Backbends are generally brmhana or energizing type asana, invigorating the body and mind.

They open the chest and promote deeper inhalation as the diaphragm, the pectoral and the intercostals muscles are all stretched and the pleural cavity is expanded, expanding the lungs. The heart is also more able to expand and contract meaning circulation and oxygenation are improved and the lymph nodes are opened enabling better lymphatic drainage. In addition the abdominal region is also stretched improving functioning in abdominal organs, especially those related to digestion.

Backbends are also excellent at counteracting postural problems where the body becomes slumped, having a tendency to fold inwards, as they are very strengthening to the muscles at the back of the body and stretch and strengthen those at the front.

We will find that having performed a backbend there is a feeling of renewed space within the body, especially within the spine, as the deeper muscles and connective tissues relax following compression. It is often said backbends are very rejuvenating partly because of this but also because it is said they stimulate the circulation of the spinal fluids keeping our spine young and healthy.

## General principles for back bending

There are some general principles we can apply to all backbends whether they are backbends in which the body is moved primarily due to gravity where the muscles of the front of the body help to lower us eccentrically into the backbend as for ustrasana (camel), or backbends which move against gravity where the muscles of the back of the body contract concentrically to lift us into a backbend such as for dhanurasana (bow). These principles will help us to work safely and sensitively into all backbends and give us some of the main teaching points we will need to use in our instructions.

- We should never rely upon the natural curvature of the lower back but **maintain an extension or lengthening action throughout the whole spinal column** noting that any backbend is **initiated at the thoracic region by raising the sternum, laterally rotating the shoulders and engaging the core muscles**, only then when the spine has been fully lengthened do we move into a back bend. Without this care it is possible students will excessively push into the areas of structural/functional difference along the spinal column so that students may hyperextend the neck between C7 & T1, flare the ribs compressing between T12 and L1, and compress the lower back by hinging backwards between L5 and S1. We must avoid backbending along the path of least resistance.
- **Ideally the neck must remain lengthened i.e. extended**, only dropping the head backwards into hyperextension if that is structurally possible and the neck muscles has the strength to do so. We may find there is a structural compression to lowering the head backwards and can know this is the case when the primary limitation is at the back of the neck rather than within the musculature at the front of the neck.

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- To prevent flaring at the ribs which can create misalignment in the spine and pelvis we can **imagine that the lower ribs are actually moving inwards away from the skin** and we must always support the lumbar region.
- To protect the lumbar region we need to ground downwards so strength within the lower limbs and an awareness of the connection to the ground is useful, particularly **ensuring that the weight is spread symmetrically and the pelvis remains symmetrical**; where the backbend is itself asymmetrical such as for natarajasana, dancer pose, then we need to ensure the pelvis still remains symmetrical, disallowing one side to lift so encouraging asymmetrical pressure upon the spinal vertebrae and discs. In particular **engaging the adductors**, creating a slight internal rotation, **supports the lumbar region** as does **contracting the pelvic floor and the deeper transversus abdominis and internal obliques, which are all engaged with a gentle mula bandha**. Some authorities recommend tucking the tailbone underneath to protect the lumbar region but others say that this actually diminishes the natural curve of the spine and does not encourage the curve of the backbend to be spread evenly along the spine. They point out that when we tuck the tailbone beneath and create a posterior pelvic tilt this primarily engages the rectus abdominis which is actually too superficial to give support to the lumbar spine. Do try and see which works best for you and perhaps you can also offer this as an exploration for your students.
- To aid the extension (lengthening) before back bending we must inhale and as we enter the backbend we can use the exhale. Once in the backbend we breathe smoothly and where this is not possible or we begin to look strained or red we must leave the backbend or adopt a softer modification. As always **good use of the breath facilitates and monitors the movement**.
- **Good external hip rotation is necessary and as the pelvis remains stable the gluteus maximus and hamstrings will need to contract**, but for all backbends where the feet or knees are not anchored to the ground but as in dhanurasana, the bow, they are free to move we should **ensure that the femur heads do not roll outwards** so the legs and feet are seen to turn inwards as this exerts pressure upon the lumbar spine and SI joints. Here students need to also be aware of **moving from the core muscles, engaging the adductors and pada bandha**, the foot lock, and this will draw legs closer together creating a slight internal rotation.
- As for forward bends we need to **be aware of how we increase the weight within the backbend, and thus its intensity, by extending arms and legs away from the body** and when we are working against gravity so for instance in matsyasana, fish pose, when arm are flexed overhead this creates a greater load to be supported than if for instance we keep arms to the floor or place them in prayer position at the chest.

The hyoid bone:

Here we can also look at a particular bone of the body, the hyoid bone which can be extremely helpful when keeping the spine extended. This U-shaped bone is positioned in the upper anterior area of the neck suspended by ligaments from the styloid process of the temporal bone. Uniquely it is the only bone in the body that does not articulate with another bone. The hyoid acts as an attachment point for muscles at the

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base of the mouth and for those muscles beneath the bone but it also has a very important energetic function where when we engage the hyoid by drawing the very top front of the throat slightly in, up and back the front of the body, i.e. the chest and abdomen are gently engaged supporting the spinal column. This action therefore is of great importance for all standing poses where the spine is erect and also in particular for back bending asana where we need to engage musculature at the front of the body as well as at the back of the body. This is one very important reason why it is best to maintain the length or extension in the neck when back bending, as when we hypextend at the neck this support is lost!

## Good preparation for back bending

To enable us to lift and lengthen the thoracic area of the spine we can prepare the body by **releasing tight chest muscles** (especially the pectoralis minor) and **strengthening the upper back muscles** (to include the levator scapulae, rhomboids, lower trapezius and serratus anterior) which help to stabilize the shoulder girdle. We also need to **release the shoulder joints** to allow free movement of the arms especially when the arms are being fully flexed or hyperextended.

We also need to strengthen and balance the muscles which **stabilise the pelvis (to include the transversus abdominis, obliques, adductors and pelvic floor)** plus ensure there is **good external hip rotation** so that pure hip hyperextension can occur. If there is not enough external hip rotation then when we backbend it is likely we will allow the head of the femur to roll outwards. Students also need to learn how to **create a good balanced pada bandha** or foot lock so that this helps to counteract the the adductors drawing the legs as if together.

In particular gentle twists and some lateral stretches are great to prepare for backbends. We can also include thigh stretches and hip mobilisers in our preparation and always teach abdominal strengthening techniques and the use of mula bandha.

It is often a good idea to work with a sequence of backbends where we progressively make the backbends more intense with students staying at the right level for them. In between each backbend we can rest the body in a neutral place and only counterpose at the very end of the sequence.

Generally it is best not to teach backbends until the body has been warmed up!

## Specific considerations for backbends

- We must also consider the alignment of the hips so for standing back bending poses where there is a choice of foot placement, as in virabhadrasana I (warrior one) it may be better to keep feet at least hip width apart to avoid twisting the spine as we backbend.
- Where the arms are being used as in the bhujangasana (cobra) or dhanurasana (bow) we must always ensure that the arms are not being used excessively so creating excessive compression with the spinal column. It is often better to first practice the pose without the use of arms so we must rely upon the muscle of the trunk. Once we have felt how these muscles contract and relax then we can perform the pose with the use of arms.
- Remember there will be different natural depths of back bending possible for different individuals where the furthest point will be experienced as a point of compression at the back of the body

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where bone meets bone or where we meet an immovable bulk of tissue so we must never compress into pain or discomfort. So as a rule when the feeling of resistance is coming from the back itself that is the point at which we cannot move in more deeply whereas if the resistance is coming from the front of the body then we can work more deeply overtime stretching out the musculature on the front of body.

## Areas for caution

Heart conditions, hypertension, mature diabetic, headache	No intense backbends unless can be done in relaxed manner, do not stay in back back, just visiting them whilst students monitor their experience. Those who have has heart surgery may be reluctant to open the chest area so work cautiously.
Neck problems	Keep head neutral where can be dropped back eg. ustrasana (camel), keep head and neck supported in supine backbends e.g. matsyasana (fish) prone backbends are best to strengthen neck e.g. bhujangasana (cobra)
Spinal disc injuries	No intense backbends, start with simple prone backbends with support under pelvis, raising legs one by one, salabhasanaa (locust) and progress slowly from there
Spondylosis (degeneration of discs) and facet joint sprains in lumbar region	No intense back bends just use passive supported backbends only, e.g. lying over roll mobilizing thoracic region
General lower back pain	Work mindfully with gentle backbends
Osteoporosis	Care with neck and avoid strong backbends where the spine can be compressed, use softer, modifications instead
Kyphosis	Avoid deep backbending and keep head in neutral, never hyperextending the neck, work to mobilize chest and thoracic region
Pregnancy	No backbends, focus on modified versions where concentrate on extending the spine, opening the chest & shoulders
Abdominal or thoracic surgery	Start slowly and build gradually into more intense backbends
Insomnia	Intense backbends must not be done late in the day

## Bibliography

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