

## The principles for sidebending asana

Generally speaking there is less information on side bending as there are fewer sidebending asana, indeed with respect to different possible spinal movements we generally sidebend less in everyday life. We have Palmryasana (Palm Tree Pose) as the archetypal side bend, plus asana such as Trikonasana (Triangle Pose) & Parighasana (Gate pose), and there are variations of asana that use sidebending. Do note however that Parsvakonasana (Lateral angle stretch) and Ardha Chandrasana (Half Moon pose) are generally not considered to be sidebends as ideally the spine stays in extension, that said where the alignment is not complete we can experience some degree of sidebending in these asana.

Many authorities say it is rare to have a true side bend since the vertebral column is likely to rotate slightly above and below the main area of the lateral flexion meaning in fact many side bends are in fact a combination of side bending, rotation and forward bending! For example just think about a deep Trikonasana where the hand is taken to the floor – which will almost always include some rotation and forward bending. **Indeed often we are presented with a choice as to whether we go very deeply into a sidebend so it becomes a mixture of sidebending, flexion and rotation at the spine** as we see in the first image below **or we go less deeply and can experience purer sidebending**, as we see in the second image below.



There are some general principles we can apply to our sidebending:

### General principles for side bending

- There is a natural anatomical limitation for side bending since at some point the bones of the body come against other bones within the body. For instance the pelvis will eventually come against the trochanter or head of the femur and the ribs will eventually come against the pelvis.
- If we look specifically at the spine then all areas of the spine allow for an appreciable level of lateral flexion; more specifically there is around 20° maximum lateral flexion at lumbar & thoracic regions and 35 to 45° maximum lateral flexion at the cervical region.
- As there is necessarily asymmetrical pressure exerted upon the spinal discs and bodies we must ensure that the spine stays lengthened and supported by surrounding muscles and connective tissues.
- If you wish to create pure lateral flexion at the spine then the feet must usually be forward facing, such as with Palmyrasana (Palm Tree) or a variation of Trikonasana (Triangle Pose). With feet pointed forwards little movement can occur at the hip joints

and we will find that the spine moves into a purer lateral flexion, see the second image above.

- However if the feet are angled, meaning there is considerable rotation possible at the hips, now it becomes possible to move more deeply down into the pose. If hips are very mobile then lateral spinal flexion can be retained but if there is any lack of mobility in the hips or the muscles & ligaments of the groin then as we move more deeply into a sidebend there will also be forward flexion and rotation of the spine. Remember lack of mobility in hips or groin muscles can be reduced over time but there will be a point where natural structural limitations will be encountered by everyone.
- Whichever version we adopt we need to ensure that the knees remain aligned with the feet or there will be uneven pressure upon the knee's internal structure and the surrounding ligaments. So here for instance in Trikonasana (Triangle) we need to ensure there is a good pada bandha i.e. a good weight distribution within each foot and between the two feet, and for the front leg if there is any resistance at hips or groin we may need either to turn the front foot in a few degrees so it is still aligned with the front knee and/or allow the top rear hip to fall inwards a little so that the front knee remains aligned with the front foot.
- We must also avoid hyper-extending the knees, especially on the stretching side so in standing poses such as Trikonasana, maintaining a strong base by lifting upwards through the quadriceps, ensure that the weight within the front foot is evenly balanced in all corners, and if necessary we can bend the knee a little to the lead side. (Remember it is different in seated poses such as Parvriti Janusirsasana (Revolving Head to Knee Pose) where to avoid hyperextension in the straight leg we need to press down into the heel as we engage the quads.)
- We need to create a strong foundation within the lower body so the lower body is grounded and fully aligned, a good pada bandha (foot lock) and a gentle mula bandha (root lock) will help with this process, as will activating the adductors.
- We must also maintain integrity within the spine as we enter a side bend, engaging the abdominal muscles and the superior lateral muscles as we mobilize the thoracic region of the spine. At all times we must avoid creating a deep arch within the spine, as an unintentional hyperextension in the spine will cause unwanted spinal compression. Here those with a marked lumbar lordosis may wish to tuck the tailbone underneath to reduce the depth of the hyperextension, and as usual if this action helps to alleviate compression in the lower back it will be a good choice. It is also worth bringing student's attention to the lower side of the torso, which is not being stretched, so that this area remains awakened.
- Prior to entering a side bend we must lengthen, and support the spine when inhaling to help create 'space' within the spinal column, maintaining that internal lift as we move into the side bend. However do not lean outwards first in poses such as Trikonasana as whilst this can extend the spine it also diminishes or shears the link between the pelvis and the spinal column causing potential strain upon sacroiliac joints and the low back, and for some students this will be very important. Also by moving directly into a side bend, rather than initially reaching outwards, this also ensures that we are moving more truly into a sidebend rather than folding forwards and twisting.

- Do not allow yourself to relax the body by placing all of your weight into the lower hand, in fact the line of effort will be the reaching upwards, whilst simultaneously connecting the lower and upper hand and opening the chest; in fact it may better at first to practice poses such as Trikonasana by keeping the lower hand un-supported, back of hand to inside leg, so we learn to utilise our muscular effort. And at all times we must avoid pressing down into the knee with the lower hand.
- Consider the placement of the head and neck as we can easily exert strain into neck muscles if we stay in a sidebend. Often we ask students to look up to the upper hand, we need however to always give the modification of looking forward or down if needed.
- Do not go too deeply into the side bend unless you know you can use your muscular strength to lift yourself out again. Contract the core muscles, and those of the legs and feet, then inhaling raise up and out. Where it is applicable we can bend the front knee to help us lift out in asana such as Trikonasana.
- Do not attempt to go into a 'full' or 'deep' posture at first, always maintain a good degree of ease within the body, breath and mind. Eventually with practice the body will be able to comfortably adjust to new edges of tension.
- Remember the stretch or connected line of energy needs to be experienced primarily on the whole top side of any side stretch, which will both open and strengthen those muscles, and if it feels as if the limiting factor is on the side you are moving towards than in all likelihood you have reached an impassable point of compression where bone meets bone or we are compressing muscle, tendon and ligament.
- Finally in poses such as Trikonasana (Triangle) & Parighasana (Gate Pose) consider whether you want students to experience a sidebend or if you are happy for them to go further down towards the floor into a sidebend that involves some forward flexion & twisting. Generally speaking the former is more helpful and the latter can be used as a variation where there is some sidebending. One of our main challenges will be to keep students from going too deeply so they can really experience sidebending in the spine and opening across the groin!

### Areas for caution

Lower back conditions, sciatica	Limit depth, possibly placing a block or support under lower hand, upper hand to hip if helpful, can keep front knee slightly bent
Hypertension, CAD, mature diabetic	Upper hand to hip if static, avoiding working too strenuously, rest as needed
Neck conditions	Look forwards or downwards
Obesity & pregnancy	Limit depth, support for lower hand if needed, upper hand to hip if helpful, can bend front knee
Osteoporosis	Caution, limit depth, keep body open

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