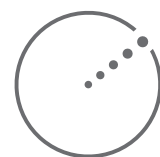


# Active Breathing Coordinator

Respiratory motion management



*Reduce target movement*  
*Now supports automated gating*



ELEKTA

# Reduce target movement

Management strategies for internal motion can be complex. Different motion types and different patients require personalized approaches. Active Breathing Coordinator™ provides non-invasive, internal immobilization of anatomies affected

by respiratory motion. This is achieved through simple, efficient, assisted breath-hold techniques to account for motion challenges that are faced in radiotherapy clinics on a daily basis.

## Are you concerned that organ motion restricts your ability to accurately deliver radiation to a moving target?

Key to precise targeting of radiation treatment is the ability to reproduce the position of internal anatomy. Active Breathing Coordinator achieves this by providing the precision and reproducibility to the motion management approach of deep inspiration breath hold. It allows clinicians and the patients to define a comfortable breath-hold level and duration. This facilitates potential margin reduction, dose escalation and hypofractionation through immobilization of internal anatomy directly correlated to respiratory volume.

Active Breathing Coordinator enables comfortable and reproducible breath-hold, even for patients receiving treatment to the lung. It has been widely used for stereotactic treatment in the lung and liver and has been proven effective in clinical practice.

## Are you concerned about unnecessary dose to nearby critical structures?

Breath-hold treatments using Active Breathing Coordinator provide the ability to reduce dose to critical structures such as the spinal cord by increasing the distance between the tumor and critical structure through deep inspiration breath-hold. In thoracic treatments it can reduce not only the amount of lung tissue irradiated but also dose to healthy tissue. With left breast treatment, one of the challenges of radiation therapy is avoiding dose to the heart. Using moderate deep inspiration breath-hold (mDIBH) with Active Breathing Coordinator expands the lung volume, increasing the distance between the chest wall and the heart, thus reducing the dose.



Free-breathing CT Scan



mDIBH CT Scan increased distance chest wall and heart

*Gated treatment delivery is subject to regulatory clearance and not available in all markets.*



## Why Active Breathing Coordinator?

### Gating treatment delivery in harmony

Motion in radiotherapy is a critical challenge. It is something that affects the entire workflow from treatment planning, imaging and delivery and needs to be addressed from the offset. Therefore, controlling and coordinating respiration using Active Breathing Coordinator may improve target localization, lead to a reduction of the PTV margin and allow clinicians to escalate the dose to the tumor<sup>1-5</sup>.

Linked to the digital accelerator through the Response™ gating interface, automated gated breath-hold treatments can be delivered. From 3D conformal and IMRT to complex VMAT treatments, all can be delivered with confidence and efficiency. In addition, treatment times are reduced due to the instantaneous beam on and off as patients come in and out of breath-hold.

● Immobilizes target anatomy during planning, imaging and delivery

● Enables dose escalation for SBRT techniques

● Reduces dose to OARs

● Supports automated gating for workflow efficiencies

## References

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