

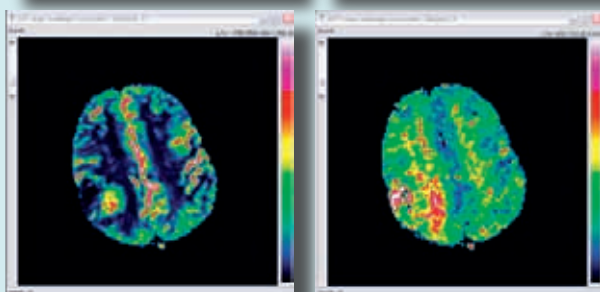
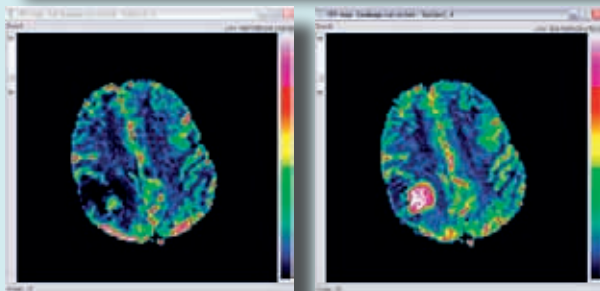
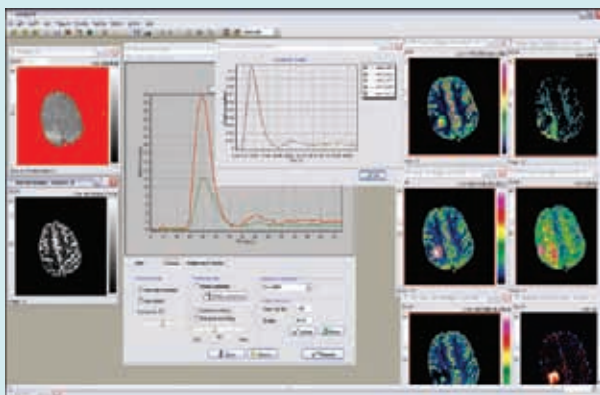
nordicICE Perfusion/DCE Module



Dynamic image analysis is becoming increasingly important both in MRI and CT. For this purpose, two dedicated dynamic image analysis modules have been developed for nordicICE: a perfusion package and a permeability analysis package.

With these two modules a large range of physiologically relevant parameters related to tissue perfusion and capillary permeability can be addressed both qualitatively and semi-quantitatively using state-of-the-art methods.

With the nordicICE Perfusion Module you can create high-quality perfusion maps from dynamic contrast enhanced MRI (T1 or T2/T2* weighted) or CT images in seconds. The combination of a user-friendly interface, state-of-the-art methods and very fast processing ensures maximum productivity without loss of quality. For the clinical workflow we provide a "one-button" perfusion analysis using pre-defined settings. The nordicICE Perfusion/DCE Module is CE marked and FDA approved.



Key features:

State-of-the art deconvolution techniques: standard SVD or block-circulant SVD. Iterative or adaptive SVD threshold

Fast generation of perfusion maps:

- Blood volume (BV)
- Blood flow (BF)
- Mean Transit Time (MTT)
- Time to Peak (TTP) or Delay (SVD)

"One-button" perfusion analysis using pre-defined settings

Choice of manual or fully automatic selection of arterial input function (AIF)

Integrated motion correction

Optimized for tumor perfusion analysis; including advanced processing methods like vessel segmentation and contrast agent leakage correction ("leakage" (Ktrans) maps)

Visual (graphical) inspection of residue function and individual AIF pixels

Large range of advanced processing options

Optional gamma-variate fitting of input function and tissue curves

Easy image fusion (drag & drop) of perfusion maps and structural images

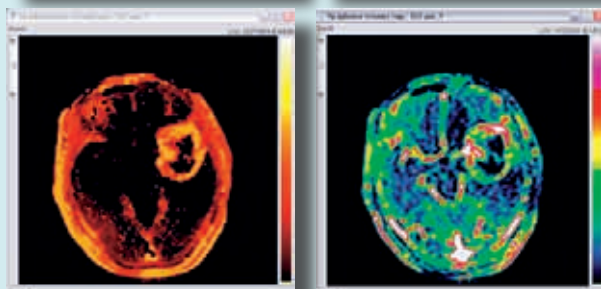
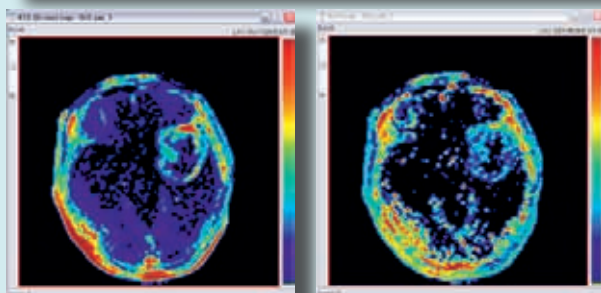
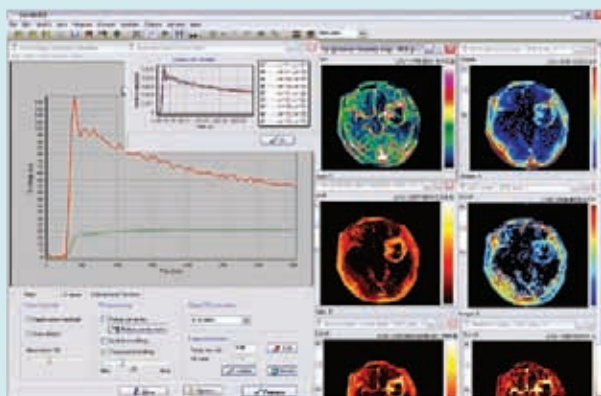
Image Courtesy of Division of Medical Imaging and Intervention, Rikshospitalet University Hospital, Oslo, Norway

nordicICE Perfusion/DCE Module



nordicICE Dynamic Contrast Enhanced (DCE) Module has been developed for contrast agent permeability analysis based on a two-compartment tissue kinetic model. The DCE Module produces high-quality maps of several contrast agent permeability related

parameters from dynamic contrast enhanced MRI or CT images using state-of-the-art methods. It is based on the same user-friendly interface as the nordicICE Perfusion Module ensuring easy transition between the two modules.



Key features:

State-of-the art deconvolution techniques for arterial input function (AIF) corrected kinetic analysis

Fast generation of both quantitative maps:

- K^{trans}
- k_{ep}
- Distribution volume (V_e)
- Plasma volume (V_p)

and qualitative maps:

- Area under curve (AUC)
- Time to peak
- Peak enhancement
- Wash-in/wash-out rates

Choice of manual or fully automatic selection of arterial input function (AIF) with visual inspection of individual AIF pixels

Visual (graphical) inspection of selected arterial input function

Integrated motion correction

Large range of advanced processing options

Easy image fusion (drag & drop) of perfusion maps and structural images

Image Courtesy of Bob L. Hou, Memorial Sloan-Kettering Cancer Center, New York, USA and Central South University, Changsha, PRC