Oncentra Prostate Image Fusion

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- Multiple image volumes (US, MR, CT)
- Rigid fusion (translation, rotation) of any two image volumes
- Automatic, manual and marker based image fusion
Import multiple volumes
6-window layout
Split screen view
Manual fusion
Marker based fusion
Automatic fusion
Points to be aware of

• Default fusion based on centre of volumes
• MR slices relocated to transverse position
• Internal co-ordinate system
• Automatic fusion of US-MR difficult
Image fusion applications

- MRI guided HDR focal tumour boost
- Multi-parametric MRI (T2 weighted, diffusion weighted and dynamic contrast enhanced) used to delineate tumour volume
- Focal boost dose applied to tumour volume, whole prostate treated to standard dose
Image fusion applications (cont)

• MR-MR for tumour delineation
  – Allows multi-parametric MRI overlay, and corrections for movement/distortion

• MR-US for treatment planning
  – Allows focal boost dose to target the tumour in US based treatment planning

• We use manual fusion option for both
mp-MRI fusion: T2-DWI
Focal GTV delineation - DWI
Focal GTV delineation - DCE
US-MR registration for focal boost

- Structures are associated to the primary volume
- Template not positioned for MRI
- => register MR volumes before implant
- Prostate moves and deforms during implant
Workflow

• Register MR (Pri) to library US (Sec)
• => MR contours positioned in template
• Re-register MR (Sec) to live US (Pri) after needle implantation
MR to library US fusion
Transfer to secondary
Live US – MRI fusion
Live US – MRI fusion
Focal GTV dose boost
Thank You