

CAR 2022 ASM Value of Radiology Project – 1st Place Winner

Abstract # PROA19JN0VS

MRI Appropriateness Checklist Decreases Volume of Spine Imaging from Primary Care Physicians

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PRESENTER'S LEVEL OF TRAINING: Medical Student

OBJECTIVE: To reduce the volume of inappropriate spine MRI studies at London Health Sciences Centre (LHSC) by implementing an imaging referral checklist which utilizes guideline-appropriate indications.

METHODS: The MRI spine appropriateness checklist was implemented January 1st, 2018 for all non-urgent, adult outpatient MRI spine referrals to LHSC from the Southwest Local Health Integration Network (LHIN). The volume of lumbar and cervical spine studies ordered by primary care physicians (PCPs) was recorded for years 2016 and 2017, prior to implementation of the checklist, and compared to the volume of years 2018 and 2019, after checklist implementation. The ten PCPs with the highest volume of MRI spine studies prior to checklist implementation were identified and their respective volumes before and after checklist implementation were compared.

RESULTS / DISCUSSION: The volume of spine MRI studies decreased significantly by 22.5% following the implementation of the MRI spine appropriateness checklist ($p < 0.01$). The average annual volume of MRI studies among the ten highest ordering PCPs decreased significantly from 19 to 10.2 spine MRI studies per physician following checklist implementation ($p < 0.01$). The MRI spine appropriateness checklist was effective in reducing inappropriate spine MRI referrals by PCPs, particularly amongst the highest ordering physicians. Unnecessary spinal imaging is a source of low value spending in the already burdened Canadian healthcare system and carries significant associated risks for patients, such as patient labelling and unnecessary surgery.

CONCLUSION: The MRI spine appropriateness checklist is effective in decreasing the volume of inappropriate spine MRI studies, which will decrease unnecessary healthcare spending and improve the quality of patient care.

CAR 2022 ASM Value of Radiology Project – 2nd Place Winner

Abstract # PROJ09FFM26

Does Creating a Universal Report Standard for Potential Living Renal Donors Ensure That All Pre-operative Data Is Acquired for Transplant Urologists?

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PRESENTER'S LEVEL OF TRAINING: Resident

OBJECTIVE: Determine whether standardized template reporting for the pre-operative assessment of potential living renal transplant donors improves the comprehensiveness of radiographic reports to meet the needs of urologists performing renal transplants.

METHODS: REB exemption for a Quality Initiative project was obtained at all institutions. Urologist and radiologist stakeholders from each Ontario renal transplant center ratified a standardized reporting template for evaluation of potential renal donors. Three centers (A, B, and C) were designated "intervention" groups. Center D was the control group, given employment of a site-specific standardized template prior to study commencement. Up to 100 consecutive CT scan reports per center, pre- and post-implementation of standardized reporting, were evaluated for reporting of specific outcome measures.

RESULTS / DISCUSSION: At baseline, all intervention groups demonstrated poor reporting of urologist-desired outcome measures. Centers A and B discussed 5/12 variables and Center C only discussed 1/12 variables with $\geq 90\%$ reliability. The control group exhibited significant consistency in reporting, with only two variables $\leq 98\%$ reliability. All institutions in the intervention group exhibited excellent compliance to structured reporting post-template implementation (Centers A=95%, B=100%, and C=77%, respectively). Additionally, significant improvement in comprehensiveness of reports was shown, with statistically significant increases in reporting of all variables across all centers (apart from variables already reported $\geq 97\%$ at baseline).

CONCLUSION: Standardized templates across Ontario for CT scans of potential renal donors promote completeness of reports. Radiologists can reliably provide our surgical colleagues with needed preoperative anatomy and incidental findings, which will help determine suitable transplant donors and reduce potential complications associated with organ retrieval.

CAR 2022 ASM Value of Radiology Project – 3rd Place Winner

Abstract # PROV8MK82L2

Demonstrating Value of Radiology in Endometriosis: Optimizing 2-way Communication with Gynecologists

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PRESENTER'S LEVEL OF TRAINING: Resident

OBJECTIVE: Pelvic MRI is useful for query and surgical mapping of deep infiltrating endometriosis that is not easily assessed by laparoscopy. The objective of this project is to increase communication between radiologists and gynecologists in terms of providing relevant history on requests, optimize MRI protocols, ensure appropriate utilization, and standardize reports of pelvic MRIs performed for endometriosis.

METHODS: Existing guidelines for protocoling and reporting pelvic MRI for endometriosis were reviewed. An internal audit of pelvic MRI utilization at our institution was performed from September 2020 to December 2020. Using the keyword "endometriosis", MRI reports were retrieved from PACS and analyzed. Through an interdisciplinary approach, changes to workflow were made and outcomes will be evaluated to ensure accuracy of reporting.

RESULTS / DISCUSSION: Of the 134 MRIs retrieved, 65 were performed for query diagnosis and 26 for mapping of disease (43 were excluded). Median age was 40 years old (range: 18-76). Consensus was obtained based on current guidelines to perform an MRI with or without contrast depending on the indication of the study. To reduce long MRI wait times, transvaginal ultrasound should be performed before MRI is requested. An anatomical-based standardized template was developed in conjunction with expert gynecologists and urologists to ensure key areas for endometrial plaques and adhesions were reported accurately. Strengths and limits of MRI were communicated to our surgical colleagues.

CONCLUSION: Radiologists can collaborate with clinicians and surgeons to optimize history provided, MRI protocoling, modality utilization and standardize reporting of endometriosis.