MEMORANDUM FOR SGVT
ATTN: LT COL DOUGLAS W. BYERLY

FROM: 59 MDW/SGVU

SUBJECT: Professional Presentation Approval


2. Pertinent biographic information (name of author(s), title, etc.) has been entered into our computer file. Please advise us (by phone or mail) that your presentation was given. At that time, we will need the date (month, day and year) along with the location of your presentation. It is important to update this information so that we can provide quality support for you, your department, and the Medical Center commander. This information is used to document the scholarly activities of our professional staff and students, which is an essential component of Wilford Hall Ambulatory Surgical Center (WHASC) internship and residency programs.

3. Please know that if you are a Graduate Health Sciences Education student and your department has told you they cannot fund your publication, the 59th Clinical Research Division may pay for your basic journal publishing charges (to include costs for tables and black and white photos). We cannot pay for reprints. If you are 59 MDW staff member, we can forward your request for funds to the designated wing POC.

4. Congratulations, and thank you for your efforts and time. Your contributions are vital to the medical mission. We look forward to assisting you in your future publication/presentation efforts.

LINDA STEEL-GOODWIN, Col, USAF, BSC
Director, Clinical Investigations & Research Support

*Partners in a high-performance health system, dedicated to excellence in global care*
Crime Scene Investigation: Clinical Application of Chemical Shift Imaging as a Problem Solving Tool

1. TITLE OF MATERIAL TO BE PUBLISHED OR PRESENTED

Crime Scene Investigation: Clinical Application of Chemical Shift Imaging as a Problem Solving Tool

2. FUNDING RECEIVED FOR THIS STUDY? YES NO FUNDING SOURCE: GME

3. IS THIS MATERIAL CLASSIFIED? YES NO

4. IS THIS MATERIAL SUBJECT TO ANY LEGAL RESTRICTIONS FOR PUBLICATION OR PRESENTATION THROUGH A COLLABORATIVE RESEARCH AND DEVELOPMENT AGREEMENT (CRADA), MATERIAL TRANSFER AGREEMENT (MTA), INTELLECTUAL PROPERTY RIGHTS AGREEMENT ETC.? YES NO

NOTE: If the answer is "YES" then attach a copy to the Agreement to the Publications/Presentations Request Form.

5. MATERIAL IS FOR (Check appropriate box or boxes for approval with this request.)

- Publication/Journal (List intended publication/journal)
- Publication Abstract (List intended journal)
- Poster (To be demonstrated at meeting/Name of Meeting, City, State, and Date of Meeting)
- Platform Presentation (At civilian institutions/Name of Meeting, State, Date of Meeting)
- Other (Describe: Name of Meeting, City, State, and Date of Meeting)


6. WHAT IS THE EXPECTED DATE YOUR PRESENTATION/PUBLICATION WILL BE SUBMITTED TO THE DEFENSE TECHNICAL INFORMATION CENTER (DTIC)?

7. WHO IS THE PRIMARY 59 MDW POINT OF CONTACT? (Last, First, Mi.) (Include email)

Quintero, Susan J. susan.j.quintero.civ@mail.mil

DUTY PHONE/PAGER No.

292-5290

AUTHORSHIP AND CO-AUTHOR(S) (List in the order they will appear in the manuscript)

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I CERTIFY ANY HUMAN OR ANIMAL RESEARCH RELATED STUDIES WERE APPROVED AND PERFORMED IN STRICT ACCORDANCE WITH 32 CFR 219, AFMAN 40-401.1.P AND 59 MDW 41-108. I HAVE READ THE FINAL VERSION OF THE ATTACHED MATERIAL AND CERTIFY THAT IT IS AN ACCURATE MANUSCRIPT FOR PUBLICATION AND/OR PRESENTATION.

AUTHOR'S PRINTED NAME/RANK/GRADE

DOUGLAS W. BYERLY, Lt Col O5

APPROVING AUTHORITY'S PRINTED NAME, RANK, TITLE

MICHAEL A. TALL, Col, USAF, MC, Program Director

AUTHOR'S SIGNATURE

BYERLY, DOUGLAS WILLIAM 12584

APPROVING AUTHORITY'S SIGNATURE

TALL, MICHAEL A. 10359239360

DATE

Jan 26, 2016

DATE

59 MDW Form 3039 20151028 Supersedes 59 MDW Form 3039, 20131018  Page 2 of 3
**PROCESSING OF PROFESSIONAL MEDICAL RESEARCH PUBLICATIONS/PRESENTATIONS**

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3. DATE REVIEWED
16 Feb 2016

4. DATE FORWARDED TO PA

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6. COMMENTS

- [x] APPROVED
- [ ] DISAPPROVED

The article is approved.

**PRINTED NAME, RANK/GRADe, TITLE OF REVIEWER**

Rocky Calcote, PhD
Clinical Research Administrator

**DATE**

**SIGNATURE OF REVIEWER**

CALCOTE.ROCKY.D.1178245844

59 MDW OFFICE OF PUBLIC AFFAIRS (PA)

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**PRINTED NAME, RANK/GRADe, TITLE OF REVIEWER**

Christopher Carwile, T Sgt/E-6, NCOIC, PA

**DATE**

**SIGNATURE OF REVIEWER**

CARWILE.CHristopher.STEGRAND.1280477229

59 MDW/SGVU

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4. COMMENTS

- [ ] APPROVED
- [ ] DISAPPROVED
Title:
1. CSI: CLINICAL APPLICATION OF CHEMICAL SHIFT IMAGING AS A PROBLEM SOLVING TOOL
2. CRIME SCENE INVESTIGATION: CLINICAL APPLICATION OF CHEMICAL SHIFT IMAGING AS A PROBLEM SOLVING TOOL

Purpose:
Utilization of magnetic resonance imaging has significantly increased in the United States. The latest technological advances and the absence of ionizing radiation make this modality an attractive choice for imaging diagnosis. Whether or not the focus of the study, osseous structures are present on nearly all imaged body parts; therefore, inadvertent evaluation of the bone marrow is an intrinsic component of all MRI studies. Furthermore, during diagnostic evaluation of patients with known malignancy, bone marrow signal abnormalities are commonly encountered. Distinguishing between benign and malignant etiologies can sometimes be problematic. In the past, management of such indeterminate lesions included biopsy versus short-term follow up imaging. Chemical shift imaging (CSI), an MR technique commonly used in body imaging, can be helpful in evaluating these indeterminate lesions, potentially eliminating the need for biopsy in some cases.

Materials and Methods:
At our institution, CSI is not routinely included as part of our imaging protocols. Rather it is used as a problem-solving tool in difficult cases of bone marrow signal abnormality. In this presentation we will review several cases in which CSI was helpful in the diagnostic work up of patients. We will illustrate causes of diffuse infiltrative marrow, metastatic disease, benign osseous lesions and various patterns of red marrow.

Results:
Bone marrow signal abnormality is a common incidental finding in otherwise healthy individuals during the evaluation of musculoskeletal injuries, during the assessment of malignancy surveillance or staging, or during the work-up of lesions involving other internal structures. Marrow signal abnormality can be mass-like, diffuse infiltration or a patchy geographic distribution. The ability to distinguish between benign and malignant causes of marrow signal abnormality is essential to the management of patients. In our experience, CSI can be a useful MR technique to further assess marrow signal abnormality. The implementation of CSI at our institution has allowed us to distinguish between cases of atypical appearance of red marrow from those requiring further assessment with percutaneous biopsy or surveillance imaging.

Conclusion:
Management of incidental findings is a bane of medical imaging. There is a robust volume of radiology literature dedicated to discussing optimal management of these conundrums. Ideally, these so called incidentalomas should be assessed in the least invasive manner possible while adequately addressing the potentially worse possible outcomes, i.e. malignancy. CSI is a rapid, non-invasive, easily implemented MR technique, which has enabled us to avoid percutaneous biopsy or serial imaging in some cases.

"The views expressed are those of the [author(s)] [presenters(s)] and do not reflect the official views or policy of the Department of Defense or its Components."