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3 Title: Oppose Routine Use of Gonad Shields
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5 Introduced by: Aparna Joshi, MD, and Gunjan Malhotra, MD
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7 Original Authors: Aparna Joshi, MD, and Gunjan Malhotra, MD
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9 Referred To: Reference Committee B
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11 House Action: **APPROVED AS AMENDED**
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14 Whereas, the Image Gently Alliance was formed in late 2006 led by the Society of Pediatric
15 Radiology (SPR) with the goal of "changing practice by raising awareness of the opportunities to
16 lower radiation dose in the imaging of children," and
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18 Whereas, the SPR recruited other organizations/members of the imaging team into the
19 alliance in 2007 including the American College of Radiology (ACR), American Association of
20 Physicists in Medicine (AAPM), and American Society of Radiologic Technologists (ASRT), and
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22 Whereas, the practice of shielding reproductive organs and in utero fetuses began about 70
23 years ago in the 1950s in response to potential concerns about the long term effects of radiation
24 and the potential for passing on genetic mutations through genetic inheritance, and
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26 Whereas, in response to these concerns, regulation by entities such as the FDA and
27 legislation at the state and federal level exist requiring the use of gonad shields in medical imaging
28 studies, and
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30 Whereas, through technological advances, medical physicists estimate the dose from
31 routine diagnostic imaging to reproductive organs has reduced by 95 percent without
32 compromising diagnostic quality, and
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34 Whereas, technological advances and optimization have resulted in marginal hereditary risk
35 reduction from gonad shielding ranging from 1×10^{-6} in women and 5×10^{-6} in men, and
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37 Whereas, research on radiation dosing has shown that routine diagnostic imaging does not
38 produce harmful levels of radiation to patients and fetuses, and
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40 Whereas, technological advances such as automatic exposure control (AEC) (meant to
41 optimize imaging parameters) are negatively affected by shielding, and
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43 Whereas, the gonad shield results in decreased activity on the detector triggering AEC to
44 increase the radiation tube to increase output, exposure, and patient dose and also degrades
45 image quality, and
46

47 Whereas, the gonad shield produces artifacts and can obscure relevant anatomy and
48 diagnostic information, and

49 Whereas, non-diagnostic or obscured images may need to be repeated increasing patient
50 dose when shields are used, and

51
52 Whereas, the gonad surface shield is ineffective at reducing internal scatter, and
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54 Whereas, studies have shown that gonad shields are incorrectly placed for females in 91
55 percent of radiographs and for males in 66 percent of radiographs, rendering them ineffective, and
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57 Whereas, on January 12, 2021, the National Council on Radiation Protection and
58 Measurements issued a statement that the risks of utilizing gonad shields far outweigh the
59 negligible benefits to reproductive organs and therefore they should not be routinely used, and
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61 Whereas, similar statements opposing routine or mandatory use of gonadal shields were
62 released by the ACR and the AAPM in 2019 and by the ASRT in 2021; therefore be it

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64 RESOLVED: That the Michigan Delegation to the American Medical Association (AMA) ask
65 our AMA to study whether the U.S. Food and Drug Administration should amend the code of
66 federal regulations to remove language regarding the routine use of gonad shields in medical
67 imaging.
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WAYS AND MEANS COMMITTEE FISCAL NOTE: Resolutions requesting governmental advocacy -
\$25,000+

STATEMENT OF URGENCY: This resolution is urgent and time sensitive because recent research and statements from organizations that optimize radiation in imaging protocols have recommended legislative changes regarding the use of gonadal shields. We need urgent legislative and regulatory changes to decrease the radiation doses for medical imaging in children. Without these changes children are receiving unnecessary radiation and creating poor diagnostic quality images. The National Council on Radiation Protection and Measurements (NCRP) released a statement on this issue in January 2021.

Relevant MSMS Policy:

None

Relevant AMA Policy:

None

Sources:

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11. <https://www.acr.org/Advocacy-and-Economics/Advocacy-News/Advocacy-News-Issues/In-the-June-8-2019-Issue/ACR-Endorses-AAPM-Position-on-Patient-Gonadal-and-Fetal-Shielding>
12. <https://www.asrt.org/main/news-publications/news/article/2021/01/12/asrt-statement-on-fetal-and-gonadal-shielding>