AMERICAN MEDICAL ASSOCIATION HOUSE OF DElegates

Resolution: 910
(I-22)

Introduced by: Resident and Fellow Section

Subject: Gonad Shields: Regulatory and Legislation Advocacy to Oppose Routine Use

Referred to: Reference Committee K

Whereas, Led by the Society of Pediatric Radiology (SPR), the Image Gently Alliance was formed in late 2006 with the goal of “changing practice by raising awareness of the opportunities to lower radiation dose in the imaging of children” (1); and

Whereas, The SPR recruited other organizations/members of the imaging team into the alliance in 2007 including the American College of Radiology (ACR), American Association of Physicists in Medicine (AAPM), and American Society of Radiologic Technologists (ASRT) (1); and

Whereas, The practice of shielding reproductive organs and in utero fetuses began in the 1950s given concerns about the long-term effects of radiation and the potential for passing on genetic mutations through genetic inheritance (2,3); and

Whereas, In response to these concerns, state and federal laws and regulations have been created requiring the use of gonad shields in medical imaging studies (4,5); and

Whereas, Through technological advances, medical physicists estimate the dose from routine diagnostic imaging to reproductive organs has been reduced by 95% without compromising diagnostic quality (2,3); and

Whereas, Technological advances and optimization have resulted in marginal hereditary risk reduction from gonad shielding ranging from 1x10-6 in women and 5x10-6 in men (6); and

Whereas, Research on radiation dosing has shown that routine diagnostic imaging does not produce harmful levels of radiation to patients and fetuses (2,3); and

Whereas, Modern mechanisms to optimize imaging parameters such as automatic exposure control (AEC) are negatively affected by shielding (7); and

Whereas, The gonad shield results in decreased activity on the detector, triggering AEC to increase radiation output, which results in increased exposure and patient dose along with the degradation of image quality (7); and

Whereas, The gonad shield produces artifacts and can obscure relevant anatomy and diagnostic information (7); and

Whereas, Non-diagnostic or obscured images may need to be repeated increasing patient dose when shields are used (7); and

Whereas, The gonad surface shield is ineffective at reducing internal scatter (7); and
Whereas, Studies have shown that gonad shields are incorrectly placed for females in 91% of radiographs and for males in 66% of radiographs, rendering them ineffective (8,9); and

Whereas, On January 12th, 2021, the National Council on Radiation Protection and Measurements (NCRP) issued a statement that the risks of utilizing gonad shields far outweigh the negligible benefits to reproductive organs and therefore they should not be routinely used (10); and

Whereas, Similar statements opposing routine or mandatory use of gonadal shields were released by the ACR and the AAPM in 2019 and by the ASRT in 2021 (11,12); therefore be it

RESOLVED, That our American Medical Association oppose mandatory use of gonad shields in medical imaging considering the risks far outweigh the benefits (New HOD Policy); and be it further

RESOLVED, That our AMA advocate that the U.S. Food and Drug Administration amend the code of federal regulations to oppose the routine use of gonad shields in medical imaging (Directive to Take Action); and be it further

RESOLVED, That our AMA, in conjunction with state medical societies, support model state and national legislation to oppose or repeal mandatory use of gonad shields in medical imaging (New HOD Policy)

Fiscal Note: Not yet determined

Received: 09/30/22

References
1. https://www.imagegently.org/About-Us/Campaign-Overview
6. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7005227/
8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3292647/