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**Table 1. Actionable genetic mutations associated with increased risk for breast cancer (adapted from ref 15, NCCN 2022)**

<b>Gene</b>	<b>Associated Syndrome</b>	<b>Lifetime Risk of Breast Cancer</b>
ATM	Ataxia-telangiectasia	20-40%
BRCA1 BRCA2		>60%
BARD1		20-40%
CDH1	Hereditary diffuse gastric cancer	41-60%
CHEK2		20-40%
NF1	Neurofibromatosis type 1	20-40%
PALB2	Fanconi anemia	41-60%
PTEN	Cowden and Bannayan-Riley-Ruvalcaba	40-60%
RAD51C RAD51D		20-40%
STK11	Peutz-Jeghers syndrome	32-54%
TP53	Li-Fraumeni syndrome	>60%

**TABLE 2. Comparison of updated with prior ACR recommendations (ref. 7). Changes in bold. See text for further information and details.**

Population at Risk	Prior Recommendation 2018 (starting age)	Current Recommendation 2023 (starting age)
Genetic Mutation Carriers / untested 1 <sup>st</sup> degree relatives	<ul style="list-style-type: none"> <li>• annual DM/DBT* (age 30)</li> <li>• BRCA1 only DM/DBT exception</li> <li>• annual MRI (age 25-30)</li> </ul>	<ul style="list-style-type: none"> <li>• annual DM/DBT (<b>age 40 if annual MRI</b>; age 30 if not)</li> <li>• annual MRI (25-30)</li> </ul>
Calculated Lifetime Risk of 20% or more	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• annual MRI (age 30)</li> </ul>	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• annual MRI (age 30)</li> </ul>
History of Chest/Abdomen Radiation Treatment at Young Age	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• annual MRI (age 25 or 8 years after treatment, whichever is later)</li> </ul>	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• annual MRI</li> <li>• <b>consider abdominal RT that overlaps breast in risk</b> (age 25 or 8 years after treatment, whichever is later)</li> </ul>
Personal History (PH) of Breast Cancer < age 40	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• annual MRI if dense breast or if diagnosed &lt; 50; others with PH consider MRI (from age at diagnosis)</li> </ul>	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• annual MRI if dense breasts or if diagnosed &lt; 50; others with PH consider MRI (from age at diagnosis)</li> </ul>
History of Atypia/LCIS diagnosed < age 40	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• consider annual MRI if other risk factors (from age at diagnosis)</li> </ul>	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• consider annual MRI if other risk factors (from age at diagnosis)</li> </ul>
Dense Breast Tissue	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• consider annual MRI or US (age 40/earlier if other risk factors)</li> </ul>	<ul style="list-style-type: none"> <li>• annual DM/DBT</li> <li>• <b>annual MRI</b></li> <li>• <b>consider CEM or US as alternatives to MRI</b> (age 40 or earlier if other risk factors)</li> </ul>
All women, especially Black, minority, and those of Ashkenazi Jewish descent	risk assessment by age 30	<b>risk assessment by age 25</b>

\*DM/DBT = digital mammography with or without DBT; other abbreviations: MRI=contrast enhanced breast MRI; PH=personal history of breast cancer; CEM=contrast enhanced mammography; US=ultrasound

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