Table A: Recommended annual breast surveillance modalities for females

Age group for females (years)	High-risk P/LPVs		Moderate-risk P/LPVs	
	BRCA1, BRCA2, PTEN, PALB2, CDH1, STK11	*TP53*[b]	*BARD1, CHEK2, ATM*[c]*, RAD51C/D*	*NF1*[d]
<30[a]	MRI	MRI	Not required	Not required
30-39	MRI, and consider adding MMG	MRI	Consider MRI	Consider MRI
40-49	Combined MRI and MMG	MRI	Consider MMG	Consider MRI
50-59	Combined MRI and MMG	MRI	Consider MMG	Consider MRI
60-74	Low breast density: consider MMG Persistently dense breasts: consider MRI or other imaging	MRI	Consider MMG	Consider MMG
75+	Individualised decisions for continuing surveillance based on residual breast cancer risk, life expectancy, comorbidities and patient preferences			

MMG, mammography; MRI, magnetic resonance imaging; P/LPVs, pathogenic or likely pathogenic variants

[a] Starting age of surveillance varies by PV in the high-risk category:
- *BRCA1, BRCA2*: **25 years old** or **5-10 years before the earliest known age for family breast cancer diagnosis (whichever earlier)**
- *PTEN, PALB2, CDH1, STK11:* **30 years old** or **5-10 years before the earliest known age for family breast cancer diagnosis (whichever earlier)**
- *TP53*: **20 years old**

Note: Breast cancer risk may vary between variants within the same gene, and certain variants may warrant different surveillance strategies from those shown in the table. Surveillance should be guided by variant-specific risk and the individual's overall breast cancer risk. Imaging considerations may also vary by gene within the same risk category due to gene-associated tumour biology. The examples provided below for selected P/LPVs requiring modified surveillance strategy are not exhaustive; refer to the latest clinical guidelines as evidence on variant- and gene-specific risks continue to evolve:

[b] *TP53:* MRI is recommended (instead of MMG) because of the high risk of early-onset breast cancer and concerns regarding radiation sensitivity. Ionising radiation should be minimised where effective non-ionising imaging is available.

[c] *ATM c.7271T>G* carries a substantially higher breast cancer risk than other *ATM* PVs (comparable to other high-risk PVs), hence surveillance should follow the strategy recommended for high-risk PV carriers.

[d] *NF1*: MRI is preferred at younger ages because neurofibromas may hinder MMG interpretation and *NF1* carriers have a higher prevalence of early-onset breast cancer. Consider transitioning to MMG when individuals are older, based on individual risk and imaging considerations.