

Thyroid Screening Participation Rates between 1 April, 2012 and 31 August, 2012

Participation Rates among Residents of Fukushima City

	Target population	Number of participants	Participation rates (%)	Number of participants by age				Participants from outside Fukushima	Proportion (%)
				%*					
				0-5	6-10	11-15	16-18		
Screening in Fukushima in 2012	53,619	44,959	83.8	12,072	13,240	13,406	6,241	1,454	3.2
				79.1	94.0	89.9	66.7		
				26.9	29.4	29.8	13.9		
Screening in other parts of Fukushima in 2012**	-	216	-	68	59	63	26	62	28.7
				-	-	-	-		
				-	-	-	-		
Screening in 2011	47,766	38,114	79.8	9,902	10,662	11,466	6,084	5,183	13.6
				78.1	84.9	84.5	67.8		
				26.0	28.0	30.1	15.9		
Total	101,385	83,289	82.2	22,042	23,961	24,935	12,351	6,699	8.0
				78.7	89.8	87.4	67.3		
				26.5	28.8	29.9	14.8		

*Upper: number of participants/number in the target population age group; lower: number of participants in the age group/number participants.

**Other areas included Minami-soma, Date, Tamura, Kawamata, Naraha, Tomioka, Okuma, Futaba, Namie, Hirono, and Iitate

Thyroid Screening Results

Total number of participants			April 2011–March 2012			April 2012–August 2012		
			38,114			42,060		
Results	Status		April 2011–March 2012			April 2012–August 2012		
			Number	%		Number	%	
A	A1	No nodules/cysts	24,469	64.2	99.5	23,702	56.3	99.4
	A2	Nodules ≤ 5.0 mm or cysts ≤ 20.0 mm	13,459	35.3		18,119	43.1	
B	Nodules ≥ 5.1 mm or cysts ≥ 20.1 mm		186	0.5		239	0.6	
C	Immediate need for secondary examination		0	0.0		0	0.0	

- Those with A1 and A2 screening test results will undergo complete thyroid examinations scheduled in 2014.
- Those with B and C screening test results will undergo a secondary examination.
- Some A2 test results may be classified as B results when clinically indicated.
- Results of April 2012–August 2012 screening include confirmed test results obtained by 24 August, 2012.

Test results		April 2011–March 2012		April 2012–August 2012	
		Number (%)	Total (%)	Number (%)	Total (%)
Nodules*	≥ 5.1 mm	184 (0.48)	385 (1.01)	232 (0.55)	385 (0.92)
	≤ 5.0 mm	201 (0.53)		153 (0.37)	
Cysts	≥ 20.1 mm	1 (0.003)	13,383 (35.11)	3 (0.007)	18,139 (43.13)
	≤ 20.0 mm	13,382 (35.11)		18,136 (43.12)	

*Mixed cystic-solid nodule is included in the category of 'nodule'.

Thyroid Screening Results

1. Test Results by Age Group and Gender

April 2011–March 2012

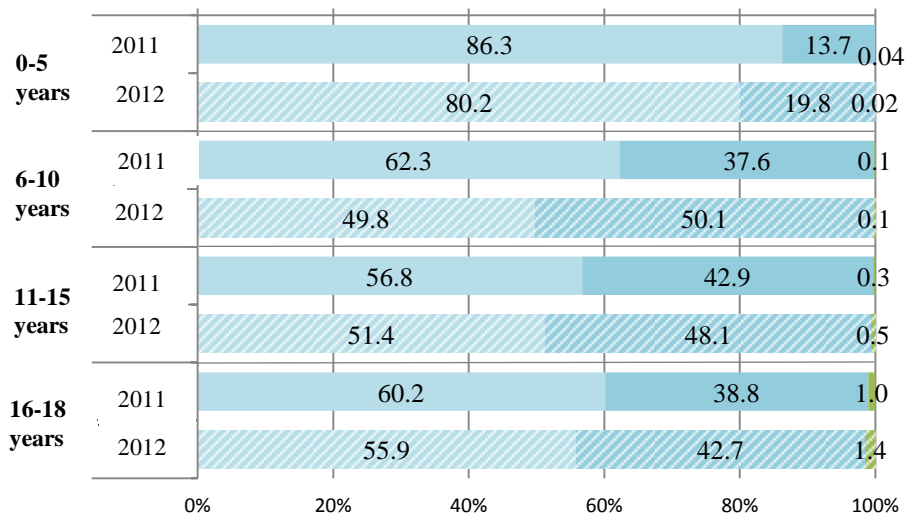
	A									B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total												
0-5	4,332	4,194	8,526	685	682	1,367	5,017	4,876	9,893	2	7	9	0	0	0	5,019	4,883	9,902
6-10	3,406	2,985	6,391	2,052	2,202	4,254	5,458	5,187	10,645	6	11	17	0	0	0	5,464	5,198	10,662
11-15	3,262	2,838	6,100	2,466	2,834	5,300	5,728	5,672	11,400	18	48	66	0	0	0	5,746	5,720	11,466
16-18	1,782	1,670	3,452	1,150	1,388	2,538	2,932	3,058	5,990	31	63	94	0	0	0	2,963	3,121	6,084
Total	12,782	11,687	24,469	6,353	7,106	13,459	19,135	18,793	37,928	57	129	186	0	0	0	19,192	18,922	38,114

1 April, 2012–24 August, 2012

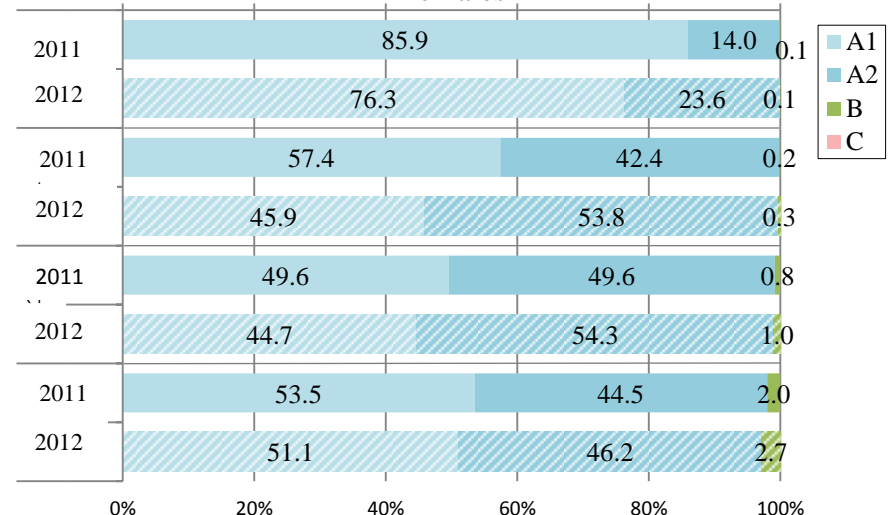
	A									B			C			Total		
	A1			A2			Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total												
0-5	4,419	3,909	8,328	1,094	1,210	2,304	5,513	5,119	10,632	1	3	4	0	0	0	5,514	5,122	10,636
6-10	3,396	2,943	6,339	3,415	3,445	6,860	6,811	6,388	13,199	8	18	26	0	0	0	6,819	6,406	13,225
11-15	3,347	2,827	6,174	3,135	3,430	6,565	6,482	6,257	12,739	35	61	96	0	0	0	6,517	6,318	12,835
16-18	1,414	1,447	2,861	1,082	1,308	2,390	2,496	2,755	5,251	36	77	113	0	0	0	2,532	2,832	5,364
Total	12,576	11,126	23,702	8,726	9,393	18,119	21,302	20,519	41,821	80	159	239	0	0	0	21,382	20,678	42,060

2. Test Results by Age Group, Gender and Year

Males



Females



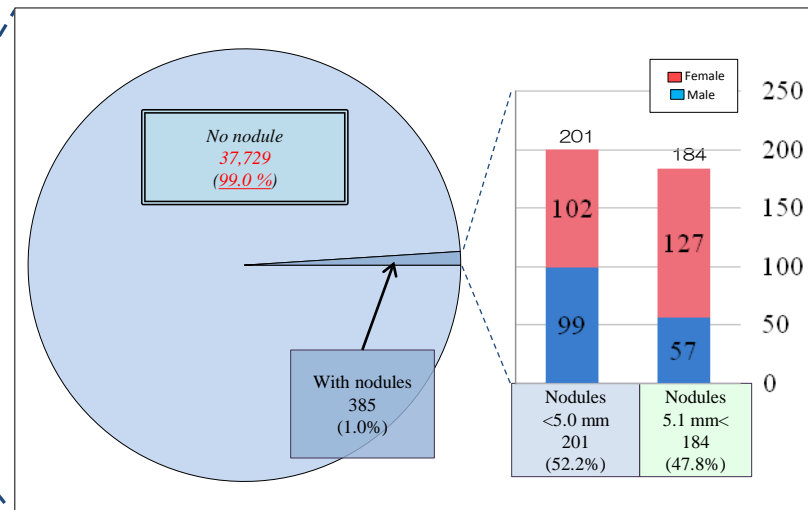
Thyroid Screening Results: Nodules (April 2011–March 2012)

Nodules Found during Thyroid Screening from April 2011–March 2012

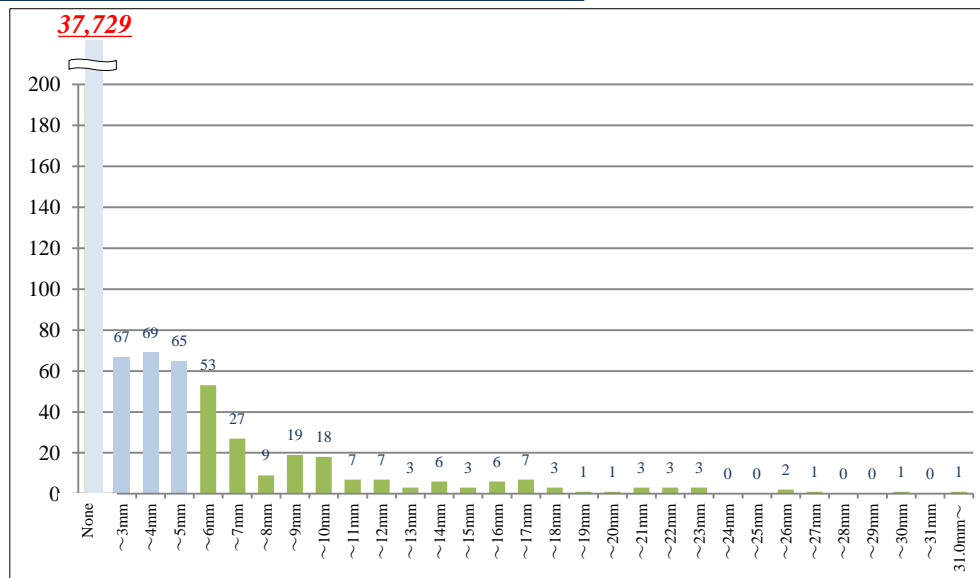
Nodule size	Total	Gender		Class	%
		Male	Female		
None	37,729	19,036	18,693	A1	99.0%
<3.0 mm	67	31	36	A2	0.52%
3.1–5.0 mm	134	68	66		
5.1–10.0 mm	126	45	81	B	0.48%
10.1–15.0 mm	26	3	23		
15.1–20.0 mm	18	5	13		
20.1–25.0 mm	9	2	7		
25.1 mm<	5	2	3		
Total	38,114	19,192	18,922		

Classification solely by nodule size.

Test results C are not included in the table because no single case has been observed to



Number of Children with Thyroid Nodules by Nodule Size



Thyroid Screening Results

Nodules were observed in 385 children (1.0%) of 38,114 who had been screened between April 2011 and March 2012.

Among 385 children with thyroid nodules, 184 required a secondary examination because of nodule size, which was 0.5% of the total number screened.

Nodules between 5.1 mm and 10.0 mm were found in 126 (68.5%) of 184 children who required a secondary examination.

Fifty-eight had nodules >10.0 mm, which was 0.15% of the total number screened.

Nodules >5.0 mm were more frequently found in females, but no significant gender difference was observed in the prevalence of smaller nodules.

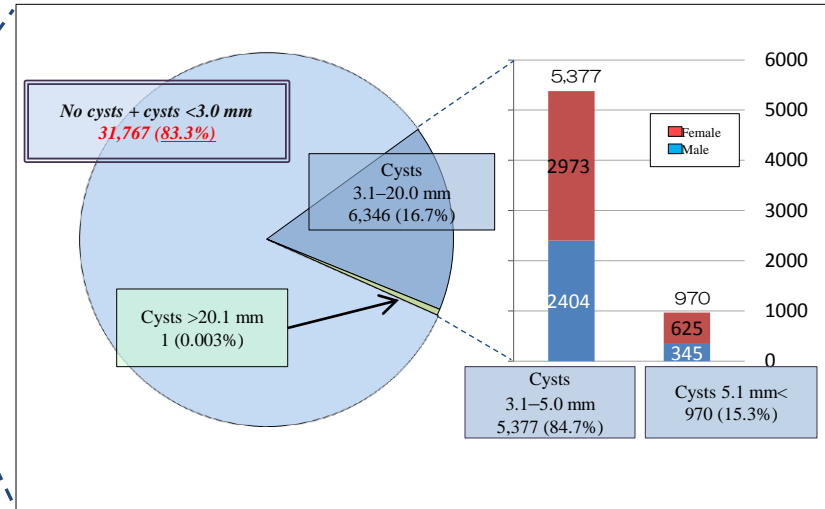
Thyroid Screening Results: Cysts (April 2011–March 2012)

Cysts Found during Thyroid Screening from April 2011 to March 2012

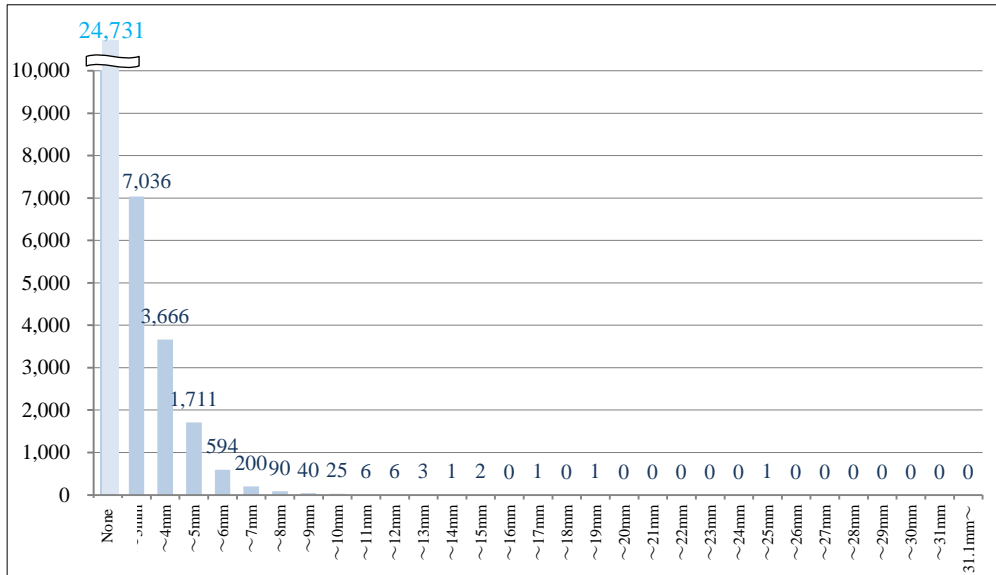
Cyst size	Total	Gender		Class	%
		Male	Female		
None	24,731	12,891	11,840	A1 (64.9%)	83.3%
< 3.0 mm	7,036	3,552	3,484		
3.1–5.0 mm	5,377	2,404	2,973	A2 (35.1%)	16.7%
5.1–10.0 mm	949	341	608		
10.1–15.0 mm	18	4	14		
15.1–20.0 mm	2	0	2		
20.1–25.0 mm	1	0	1	B (0.003%)	0.003%
25.1 mm<	0	0	0		
Total	38,114	19,192	18,922		

Classification based solely on cyst size.

Test results C are not included in the table because no single case has been observed to
Cysts <3.0 mm are included in 'None' according to the generally accepted classification.



Number of Children with Thyroid Cysts by Cyst Size



Thyroid Screening Results

Cysts were not found in 64.9% (24,731) of 38,114 who underwent thyroid screening between April 2011 and March 2012.

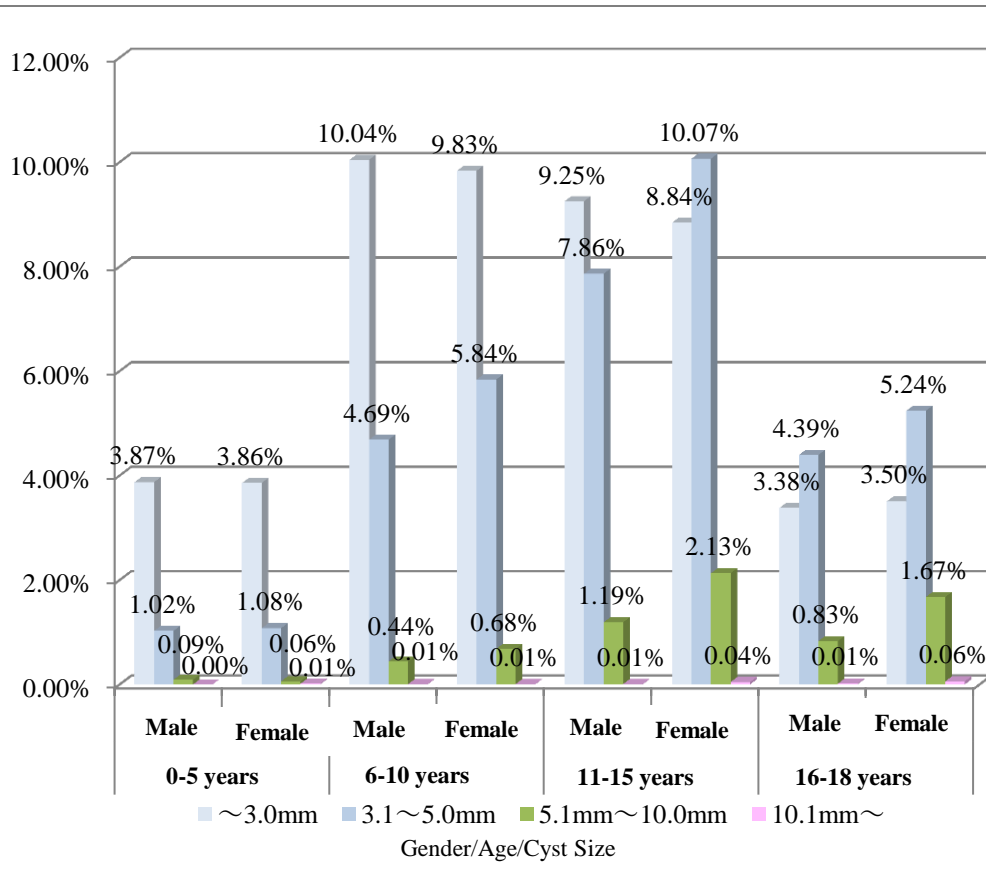
Cysts ≤ 3.0 mm, which were considered negligible, were found in 7,036 children.

Children with no cysts or cysts ≤ 3.0 mm accounted for 31,767 when combined, which was 83.3% of the total number screened.

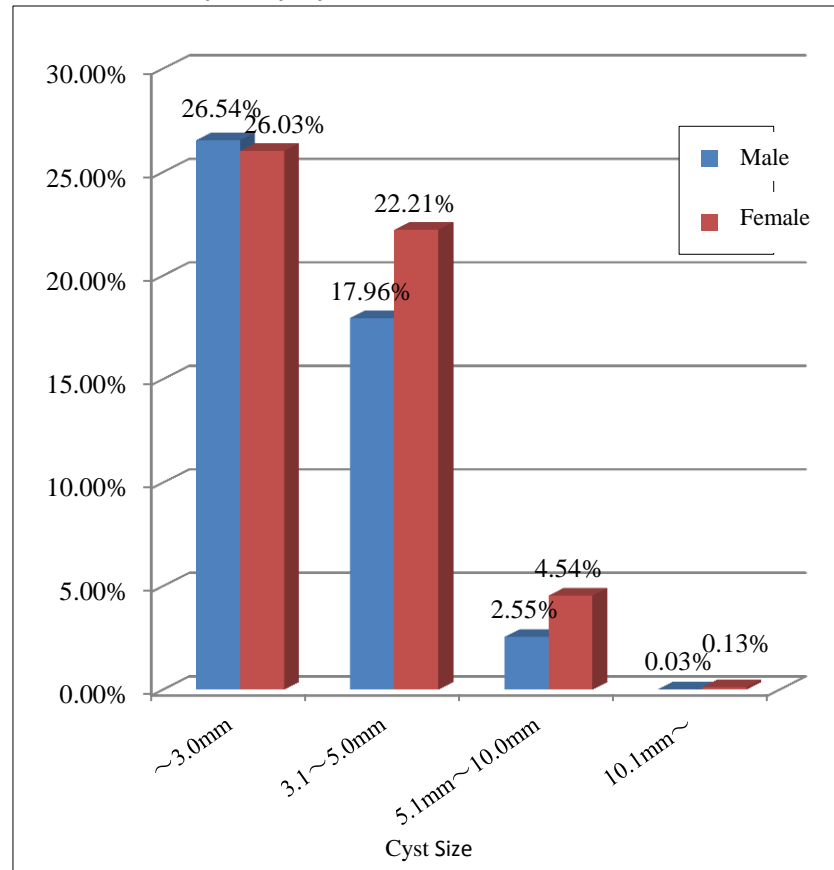
Cysts ≥ 3.1 mm were more frequently found in females, but no significant gender difference was observed in the prevalence of smaller cysts.

Thyroid Screening Results: Cysts (April 2011–March 2012)

Cysts Size by Age and Gender (Proportion Shared in 13,383 Children with Cysts)



Gender Difference in the Proportion of Children with Cysts (by Cyst Size)



Thyroid Screening Results

The graph shows that cysts ≤ 3.0 mm were more frequent in children aged 6–10 years but were less frequent among older age groups. Cysts between 3.1 mm and 5.0 mm were more frequently observed in older age groups, and children aged 11–15 years had the highest incidence rate, but the rate was lower in children aged 16–18 years. Similar trends were observed for cysts between 5.1 mm and 10.0 mm. Although no significant gender difference was observed in the prevalence of cysts ≤ 3.0 mm, cysts > 3.1 mm were more frequently found in females.

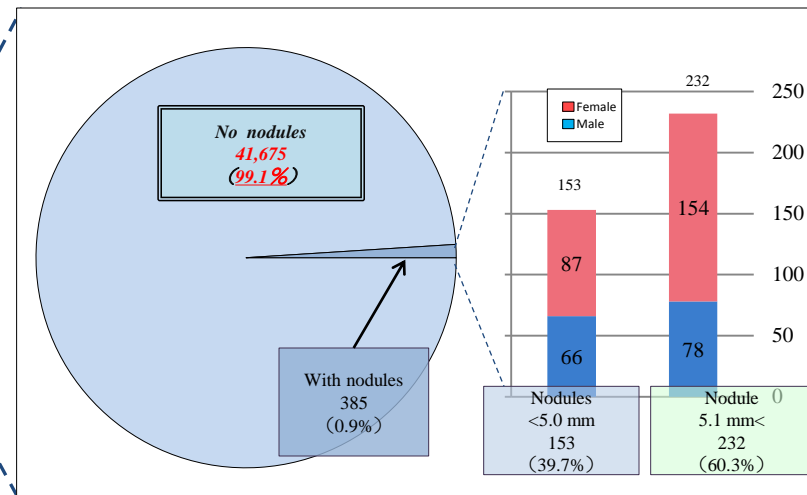
Thyroid Screening Results: Nodules (April 2012–August 2012)

Nodules Found during Thyroid Screening from April 2012 to August 2012

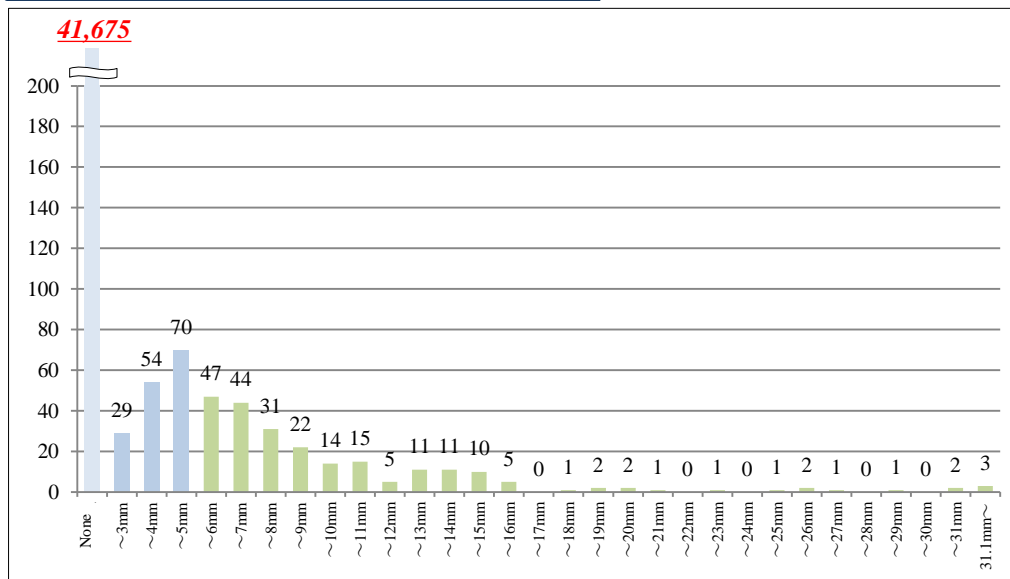
Nodule size	Total	Gender		Class	%
		Male	Female		
None	41,675	21,238	20,437	A1	99.1%
<3.0 mm	29	16	13	B	0.4%
3.1–5.0 mm	124	50	74		
5.1–10.0 mm	158	60	98		
10.1–15.0 mm	52	10	42		
15.1–20.0 mm	10	2	8		
20.1–25.0 mm	3	2	1		
25.1 mm<	9	4	5		
Total	42,060	21,382	20,678		

Classification solely by nodule size.

Test results C are not included in the table because no single case has been observed to date.



Number of Children with Thyroid Nodules by Nodule Size



Thyroid Screening Results

Nodules were observed in 385 children (0.9%) of 42,060 who were screened after 1 April, 2012.

Among 385 children with thyroid nodules, 232 required a secondary examination because of nodule size, which was 0.5% of the total number screened.

Nodules between 5.1 mm and 10.0 mm were found in 158 (68.1%) of 232 children who needed a secondary examination.

Seventy-four had nodules >10.0 mm, which was 0.18% of the total number screened.

Nodules were more frequently found in females, regardless of nodules size.

Thyroid Screening Results: Cysts (April 2012–August 2012)

Cysts Found during Thyroid Screening from April 2012 to August 2012

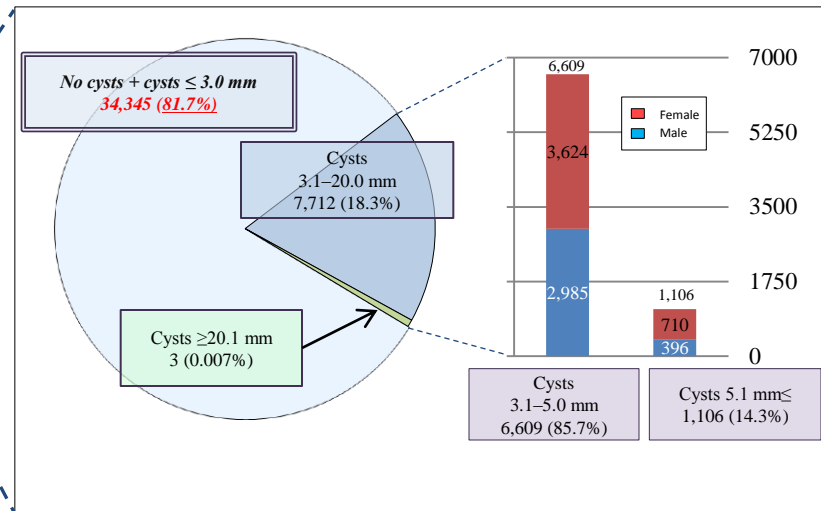
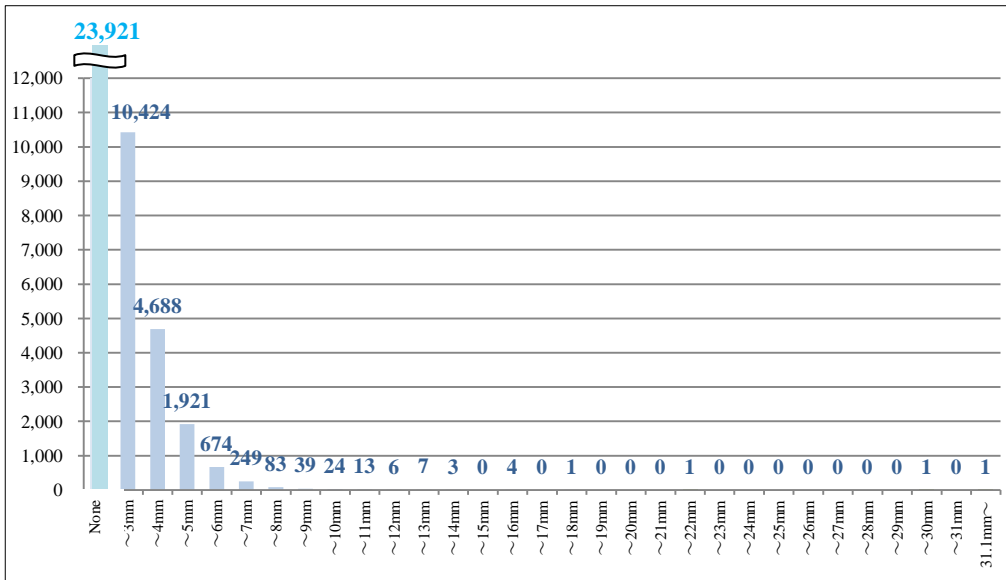
Cyst size	Total		Class	%
	Male	Female		
None	23,921	12,664	A1 (56.9%)	81.7%
<3.0 mm	10,424	5,337		
3.1–5.0 mm	6,609	2,985	A2 (43.1%)	18.3%
5.1–10.0 mm	1,069	381		
10.1–15.0 mm	29	13		
15.1–20.0 mm	5	1		
20.1–25.0 mm	1	0	B (0.007%)	0.007%
25.1 mm<	2	1		
Total	42,060	21,382		

Classification based solely on cyst size.

Test results C are not included in the table because no single case has been observed to date.

Cysts <3.0 mm are included in 'None' according to the generally accepted classification.

Number of Children with Thyroid Cysts by Cyst Size



Thyroid Screening Results

Cysts were not found in 56.9% (23,921) of 42,060 who underwent thyroid screening after 1 April 2012.

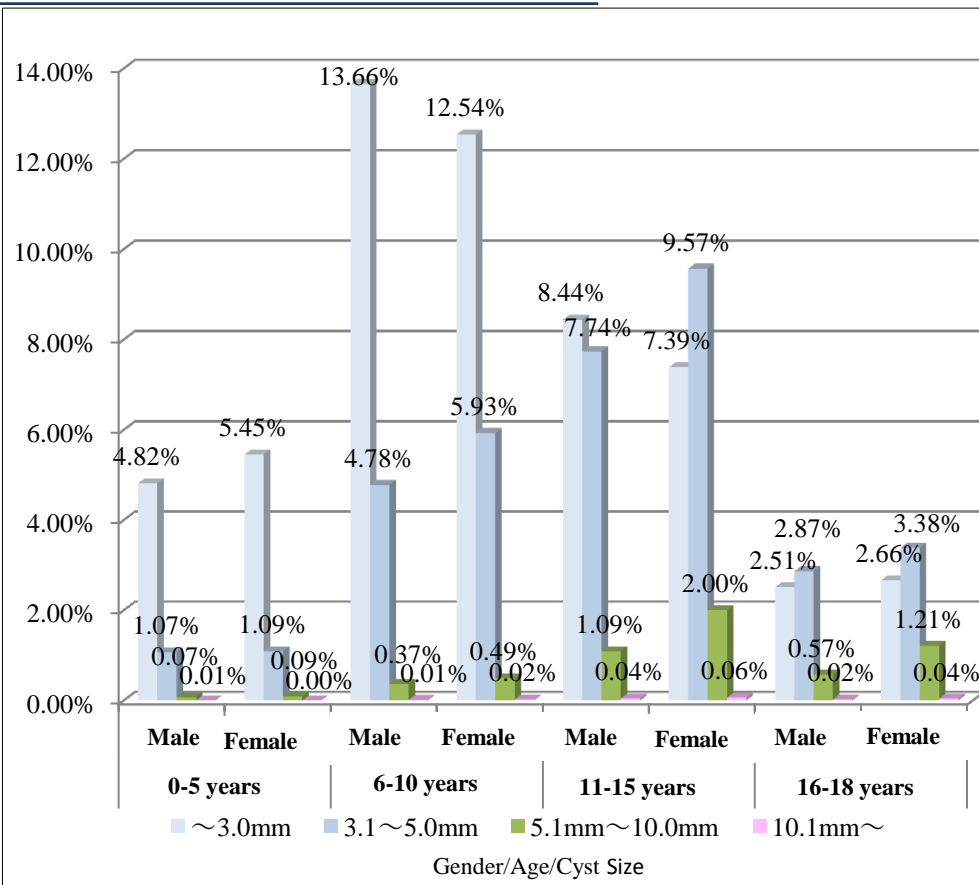
Cysts ≤3.0 mm, which were considered negligible, were found in 10,424 children.

A total of 34,345 children had no cysts or cysts ≤3.0 mm, sharing 81.7% of the total number screened.

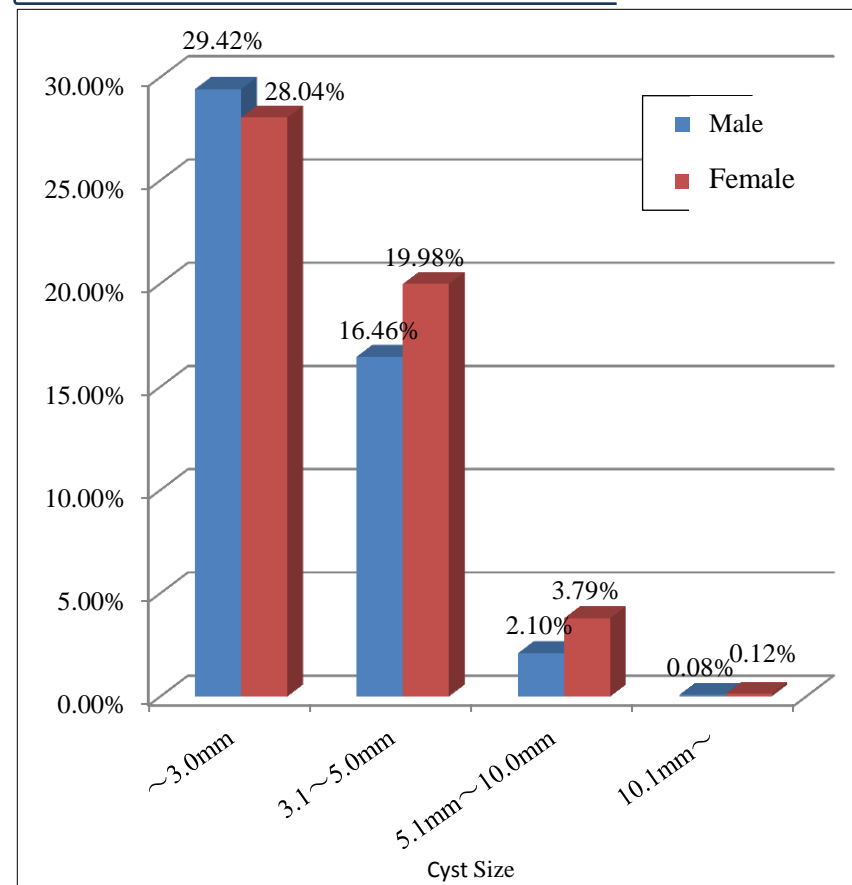
Cysts >3.0 mm were more frequently found in females, but no significant gender difference was observed in the prevalence of smaller cysts.

Thyroid Screening Results: Cysts (April 2012–August 2012)

Cyst Size by Age and Sex (Proportion Shared in 18,139 Children with Cysts)



Gender Difference in the Proportion of Children with Cysts (by Cyst Size)



Thyroid Screening Results

The graph shows that cysts ≤ 3.0 mm were more frequent in children aged 6–10 years but were less frequent in older age groups. Cysts between 3.1 mm and 5.0 mm were more frequently observed in older age groups, and children aged 11–15 years had the highest incidence rate, but the rate was lower in children aged 16–18 years. Similar trends were observed for cysts between 5.1 mm and 10.0 mm and for cysts >10.0 mm. Although no significant gender difference was observed in the prevalence of cysts ≤ 3.0 mm, cysts >3.1 mm were more frequently found in females.

Confirmatory Examination (April 2012–August 2012)

Outline for Secondary Examinations

1 Procedure

- Confirmatory examinations (advanced ultrasound examination, blood test, urine test, and aspiration biopsy cytology) were conducted at FMU Hospital
- Those with A2 test results but classified as B were advised to undergo the secondary examination as clinically indicated.
- The FMU Radiation Medical Science Center contacted residents who required a further examination, and the secondary examination was conducted at an agreed venue on an agreed date.

2 Items

- Detailed ultrasound
- Blood test (TSH, FT-3, FT-4, Tag, T-Bar, TPO-Abs)
- Urine test (urinary iodine)
- Aspiration biopsy cytology (in thyroid gland nodules suspected to be malignant by detailed ultrasound)

3 Test results

- Results of the secondary examination were provided directly to the patient with a detailed explanation.

Results of Secondary Examinations as of 31 August 2012

	Number of children who required secondary examinations	Number of children who underwent secondary examinations	Under examination	Number of children whose secondary examinations were completed	*		**Advised to be regularly monitored		
					A1	A2		with aspiration biopsy cytology	without aspiration biopsy cytology
2011/2012	186	60 32.3%	22 36.7%	38 63.3%	4	6	28	14	14

*Nothing abnormal was detected (to be tested again from April 2014).

**Either biannual or annual follow-up was recommended.