

Supplementary Table S1. Factors associated with physician perspective on potential benefits of AS¹.

	Avoid surgery		Reduce surgical complication		Improve quality of life		Increase satisfaction		Reduce socioeconomic burden	
	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend
Self-assessment		<0.01				0.02				
Good or very good	4.53 (1.58-12.98)				2.10 (0.67-6.57)					
Somewhat poor or fair	2.34 (0.80-6.84)				1.01 (0.31-3.33)					
Very poor or poor	1.00 (reference)				1.00 (reference)					
Experience of explanation		<0.01		0.03						
Yes	2.32 (1.34-4.01)		1.88 (1.07-3.32)							
No	1.00 (reference)		1.00 (reference)							

¹Responses to the question “The following are potential benefits that may arise from active surveillance in thyroid cancer patients. Please indicate your level of agreement with each benefit.” were analyzed by categorizing them into those who answered “great benefit” and those who did not. Only statistically significant odds ratios (OR) with their 95% confidence intervals (CI) were shown in the table; non-significant results were excluded.

Supplementary Table S2. Factors associated with physician perspective on potential risks of AS¹.

	Lawsuits resulting from disease progression		Patient worry and anxiety about the disease		Expanding the extent of surgery or additional treatment		Increase in consultation time		Increase in treatment complications	
	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend
Hospital type		0.01								
Tertiary hospital	0.44 (0.23-0.85)									
General hospital	0.60 (0.29-1.24)									
Primary hospital	1.00 (reference)									
Year of experience		<0.01		0.01		<0.01				<0.01
10 or more	0.45 (0.24-0.86)		0.60 (0.29-1.23)		0.31 (0.16-0.62)				0.20 (0.10-0.40)	
5-10	0.79 (0.36-1.74)		2.43 (1.06-5.55)		0.68 (0.30-1.54)				0.34 (0.14-0.83)	
<5	1.00 (reference)		1.00 (reference)		1.00 (reference)				1.00 (reference)	
Self-assessment		<0.01		<0.01		0.01				<0.01
Good or very good	0.32 (0.13-0.81)		0.34 (0.13-0.88)		0.33 (0.13-0.85)				0.19 (0.07-0.52)	
Somewhat poor or fair	0.55 (0.21-1.41)		0.66 (0.25-1.70)		0.53 (0.20-1.38)				0.46 (0.18-1.21)	
Very poor or poor	1.00 (reference)		1.00 (reference)		1.00 (reference)				1.00 (reference)	
Experience of explanation		<0.01		<0.01		<0.01				<0.01
Yes	0.39 (0.23-0.66)		0.46 (0.26-0.82)		0.43 (0.24-0.76)				0.43 (0.23-0.80)	
No	1.00 (reference)		1.00 (reference)		1.00 (reference)				1.00 (reference)	

(Continued) Supplementary Table S2

	Patient burden of long-term follow-up		Disease progression		Increase in social health care costs		Healthcare institution burden		Deterioration of disease prognosis	
	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend
Hospital type										
Tertiary hospital										
General hospital										
Primary hospital										
Year of experience		<0.01		<0.01		<0.01		0.02		
10 or more	0.38 (0.17-0.82)		0.26 (0.12-0.53)		0.34 (0.16-0.71)		0.42 (0.19-0.92)			
5-10	1.55 (0.66-3.63)		0.67 (0.29-1.57)		0.81 (0.34-1.92)		0.90 (0.36-2.25)			
<5	1.00 (reference)		1.00 (reference)		1.00 (reference)		1.00 (reference)			
Self-assessment		<0.01		<0.01						
Good or very good	0.32 (0.11-0.94)		0.21 (0.08-0.55)							
Somewhat poor or fair	0.99 (0.35-2.79)		0.38 (0.14-1.00)							
Very poor or poor	1.00 (reference)		1.00 (reference)							
Experience of explanation				<0.01		<0.01				<0.01
Yes			0.39 (0.21-0.72)		0.43 (0.23-0.80)				0.34 (0.16-0.69)	
No			1.00 (reference)		1.00 (reference)				1.00 (reference)	

[†]Responses to the question “The following are potential risks that may occur during active surveillance in thyroid cancer patients. Please indicate your level of concern for each risk.” were analyzed by categorizing them into those who answered “very concerned” and those who did not. Only statistically significant odds ratios (OR) with their 95% confidence intervals (CI) were shown in the table; non-significant results were excluded.

Supplementary Table S3. Factors associated with physician perception of difficulties in screening appropriate patients for AS¹.

	RLN involvement		LN metastasis		Patient preference		Trachea involvement	
	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend
Specialty		<0.01		0.03				
Internal medicine	3.69 (1.60-8.52)		2.93 (1.14-7.52)					
General surgery	2.42 (0.95-6.17)		2.35 (0.83-6.69)					
Otolaryngology	1.00 (reference)		1.00 (reference)					
Year of experience		<0.01		0.03		0.04		<0.01
10 or more	0.31 (0.16-0.61)		0.38 (0.19-0.77)		0.50 (0.22-1.10)		0.28 (0.12-0.64)	
5-10	0.57 (0.26-1.29)		0.22 (0.08-0.61)		1.12 (0.45-2.81)		0.71 (0.28-1.85)	
<5	1.00 (reference)		1.00 (reference)		1.00 (reference)		1.00 (reference)	
Self-assessment		<0.01		<0.01		<0.01		<0.01
Good or very good	0.18 (0.07-0.47)		0.19 (0.07-0.52)		0.23 (0.08-0.64)		0.11 (0.04-0.33)	
Somewhat poor or fair	0.55 (0.21-1.40)		0.51 (0.19-1.32)		0.60 (0.22-1.64)		0.37 (0.13-1.00)	
Very poor or poor	1.00 (reference)		1.00 (reference)		1.00 (reference)		1.00 (reference)	
Experience of explanation				0.03		<0.01		0.04
Yes			0.51 (0.28-0.94)		0.42 (0.22-0.80)		0.49 (0.24-0.99)	
No			1.00 (reference)		1.00 (reference)		1.00 (reference)	

(Continued) Supplementary Table S3

	Strap muscle involvement		Patient age		Tumor growth		Tumor size	
	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend
Specialty								
Internal medicine								
General surgery								
Otolaryngology								
Year of experience								
10 or more	0.21 (0.09-0.48)	<0.01	0.31 (0.13-0.74)	<0.01				
5-10	0.32 (0.11-0.91)		1.02 (0.39-2.67)					
<5	1.00 (reference)		1.00 (reference)					
Self-assessment								
Good or very good	0.12 (0.03-0.39)	<0.01	0.17 (0.05-0.53)	<0.01	0.19 (0.03-1.18)	0.01	0.12 (0.02-0.92)	0.03
Somewhat poor or fair	0.63 (0.22-1.82)		0.53 (0.18-1.54)		0.96 (0.19-4.73)		0.46 (0.08-2.53)	
Very poor or poor	1.00 (reference)		1.00 (reference)		1.00 (reference)		1.00 (reference)	
Experience of explanation								
Yes			0.42 (0.20-0.86)	0.02	0.29 (0.10-0.82)	0.02		
No			1.00 (reference)		1.00 (reference)			

¹Responses to the question “The following are factors that make it difficult to select appropriate thyroid cancer patients for active surveillance. Please check the level of difficulty based on your experience.” were analyzed by categorizing them into those who answered “very difficult” and those who did not. Logistic regression analysis was performed to determine the significance between groups. Only statistically significant odds ratios (OR) with their 95% confidence intervals (CI) were shown in the table; non-significant results were excluded.

Supplementary Table S4. Factors associated with physician perception of unmet needs for AS¹.

	Psychological support for patient anxiety		Reimbursement to reduced cost		Information or educational materials for patients		Cost-effectiveness information		Guidelines and protocols for AS		Criteria for selecting patients for AS	
	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend	OR (95% CI)	p for trend
Hospital type												0.04
Tertiary hospital											0.54 (0.27-1.07)	
General hospital											0.90 (0.41-1.96)	
Primary hospital											1.00 (reference)	
Self-assessment				<0.01		0.03				<0.01		<0.01
Good or very good					NA ²		0.40 (0.09-1.78)		0.09 (0.01-0.67)		0.17 (0.05-0.60)	
Somewhat poor or fair					NA ²		0.85 (0.18-4.11)		0.25 (0.03-2.01)		0.40 (0.11-1.46)	
Very poor or poor					1.00 (reference)		1.00 (reference)		1.00 (reference)		1.00 (reference)	
Experience of explanation				0.04						<0.01		<0.01
Yes					0.35 (0.13-0.93)				0.30 (0.14-0.63)		0.39 (0.21-0.71)	
No					1.00 (reference)				1.00 (reference)		1.00 (reference)	

¹Responses to the question “The following are information or support needed when conducting active surveillance in thyroid cancer patients. Please indicate what is currently lacking.” were analyzed by categorizing them into those who answered “Insufficient” and those who did not. Logistic regression analysis was performed to determine the significance between groups. Only statistically significant odds ratios (OR) with their 95% confidence intervals (CI) were shown in the table; non-significant results were excluded.

²Physicians with poor self-assessment reported that information or educational materials for patients were "insufficient" in 100% of cases; therefore, an OR for information or educational materials according to self-assessment could not be calculated using logistic regression analysis.