Supplemental Tables

Supplemental Table 1. Baseline Demographic, Endoscopic, and Histologic Characteristics of Included and Excluded Subjects in the United States Radiofrequency Ablation Cohort.

	Full Cohort	Subjects with Complete Eradication of Intestinal Metaplasia	Included Subjects	Cochran-Mantel-Haenszel/ Wilcoxon *p for association*
N	5,521	4,087	3,105	
Baseline age in years - mean (SD)	61.6 (11.4)	61.2 (11.2)	61.5 (10.9)	0.32
Male sex - N (percent)	4,052 (73.4)	2,951 (72.2)	2,258 (72.7)	0.43
Non-dysplastic Barrett's esophagus - N (percent)	2,674 (48.3)	2,050 (50.2)	1,467 (47.3)	< 0.0001
Indeterminate for dysplasia - N (percent)	406 (7.4)	314 (7.7)	242 (7.8)	
Low-grade dysplasia - N (percent)	1,113 (20.2)	829 (20.3)	643 (20.7)	
High-grade dysplasia - N (percent)	1,054 (19.1)	749 (18.3)	628 (20.2)	
Intramucosal adenocarcinoma - N (percent)	209 (3.8)	145 (3.6)	125 (4.0)	
Invasive esophageal adenocarcinoma – N (percent)	65 (1.2)	0 (0.0)	0 (0.0)	
Baseline segment length in CM - mean (SD)	4.1 (3.3)	3.7 (3.0)	3.7 (3.0)	< 0.0001
Endoscopic resection before treatment - N (percent)	495 (9.0)	327 (8.0)	289 (9.3)	0.11

SD, standard deviation; N, number; CM, centimeters.

Supplemental Table 2. Discrimination Statistics and Model Fit Statistics of the Candidate Models in the Full United States Radiofrequency Ablation Registry, in a Limited Subset of the United States Radiofrequency Ablation Registry with Low-grade Dysplasia or Worse, and in the United Kingdom National Halo Registry in the Forward Selection Model Building Process.

	Full cohort including patients without dysplasia				Limited cohort of patients with at least low-grade dysplasia				External validation in United Kingdom National Halo Registry		
	AIC	C	NRI	IDI	AIC	C	NRI	IDI	C	NRI	IDI
One variable models											
Histologic grade*	**1564.7**	**0.892**	**1.15**	**0.0668**	**1413.0**	**0.746**	**0.64**	**0.0357**	**0.728**	**0.36**	**0.0062**
Age	1693.2	0.672	-0.15	-0.0196	1430.3	0.604	0.08	-0.0154	0.470	0.14	0.0026
Endoscopic mucosal resection	1700.3	0.779	0.33	-0.0204	1437.6	0.592	0.09	-0.0063	0.524	0.18	0.0065
Sex	1714.1	0.729	-0.62	-0.0342	1438.4	0.594	†	-0.0272	0.386	†	0.0000
Segment length	1721.6	0.618	-0.25	-0.0384	1440.3	0.487	†	-0.0273	0.448	†	-0.0001
Two variable models											
Histologic grade + Age§	**1537.2**	**0.837**	**0.20**	**0.0075**	**1409.4**	**0.685**	**0.20**	**0.0083**	**0.581**	**0.05**	**0.0007**
Histologic grade + Endoscopic mucosal resection	1543.0	0.874	-0.49	0.0020	1413.8	0.718	-0.09	0.0022	0.570	-0.21	0.0031
Histologic grade + Sex	1542.0	0.878	0.15	0.0017	1414.2	0.719	-0.07	0.0018	0.589	-0.50	0.0003
Histologic grade + Segment length	1544.2	0.857	-0.33	0.0002	1415.0	0.691	-0.55	0.0002	0.581	-0.44	-0.0004
Three variable models (did not reach significance threshold)											
Histologic grade + Age + Endoscopic mucosal resection	1537.7	0.839	0.34	0.0096	1409.9	0.691	0.36	0.0105	0.566	-0.18	0.0037
Histologic grade + Age + Sex	1536.8	0.841	0.24	0.0088	1410.4	0.685	0.16	0.0096	0.547	-0.71	0.0017
Histologic grade + Age + Segment length	1539.2	0.837	0.17	0.0075	1411.3	0.684	0.18	0.0082	0.579	0.07	0.0007

AIC, Akaike information criterion; C, C statistic; NRI, net reclassification improvement; IDI, integrated discrimination improvement. * Model used for surveillance risk categories. † Not estimable. § Model resulting from forward selection process.

Supplemental Table 3. Discrimination Statistics Comparing Models Predicting Any Recurrence, Recurrence with Dysplasia as in the Primary Analysis, Recurrence with High-grade Dysplasia or Worse, and Recurrence with Intramucosal Adenocarcinoma.

Minimum recurrence histologic grade defining the outcome:	Non-dysplastic Barrett's esophagus	Low-grade dysplasia	High-grade dysplasia	Adenocarcinoma
Discrimination statistics for recurrence with a given histologic grade or worse.				
C statistic of forward selected model	0.623	0.837	0.870	*
C of model with histologic grade alone	0.639	0.892	0.917	0.895
Net reclassification improvement	-0.14	0.20	0.38	*
Integrated discrimination improvement	0.0317	0.0072	0.0065	*
Estimated hazard ratio among included parameters in the forward selected model				
Age in years	1.016	1.025	1.027	†
Non-dysplastic intestinal metaplasia	1.	1.	1.	1.
Low-grade or indefinite for dysplasia	1.348	9.372	10.170	8.391
High-grade dysplasia	1.421	24.983	46.936	21.790
Intramucosal adenocarcinoma	1.857	33.596	81.440	78.604
Long segment Barrett's esophagus	1.582	†	†	†

* The selected model included only histologic grade. † Term was not included in the selected model

Supplemental Table 4. Alternative Recommended Time after Complete Eradication Intestinal Metaplasia of Surveillance Visits to Yield 5.7% Neoplastic Recurrence per Visit or 0.2% Invasive Adenocarcinoma for Patients at Higher Risk of Endoscopic Complications.

Risk Category:	Visit 1	Visit 2	Visit 3	Visit 4
Non-dysplastic Barrett's esophagus or indefinite for dysplasia	> 7 years*	*	*	*
Low-grade dysplasia	3 years	> 5 years*	*	*
High-grade dysplasia or adenocarcinoma in situ	1 year	2 years	3 years	> 5 years*

*Surveillance times were estimated to a limit of five years for the higher two risk categories and seven years for the lower to avoid extrapolation beyond the data.

Supplemental Table 5. Estimated Proportion of Subjects with Recurrence of Neoplasia Applying the Proposed Surveillance Intervals* in the United Kingdom National Halo Registry.

Years after complete eradication of intestinal metaplasia	Total proportion with recurrence of neoplasia	Interval proportion with recurrence of neoplasia	Mean interval proportion per visit
Risk group 2: low-grade dysplasia			
1	1.3%	1.3%	4.7%
3	9.3%	8.0%	
Risk group 3: high-grade dysplasia and intramucosal adenocarcinoma			
0.25	0%	0%	
0.5	3.6%	3.6%	
1	6.9%	3.4%	
2	13.9%	6.9%	3.7%
3	21.8%	7.9%	
4	21.8%	0.0%	
5	25.9%	4.1%	

* Intervals were chosen to yield an estimated 3.6% neoplastic recurrence per visit.

Supplemental Figure Legend

Figure #	Title
Supplemental 1	Kaplan-Meier Estimates of the Proportion of Subjects in the US RFA Registry without Recurrence of Neoplasia in Five Years after Complete Eradication of Intestinal Metaplasia by Subject Age at First Treatment.
Supplemental 2	Kaplan-Meier Estimates of the Proportion of Subjects in the US RFA Registry without Recurrence of Neoplasia in Five Years after Complete Eradication of Intestinal Metaplasia by whether Endoscopic Mucosal Resection was Performed Before Entry into Surveillance.
Supplemental 3	Kaplan-Meier Estimates of the Proportion of Subjects in the US RFA Registry without Recurrence of Neoplasia in Five Years after Complete Eradication of Intestinal Metaplasia by Subject Sex.
Supplemental 4	Kaplan-Meier Estimates of the Proportion of Subjects in the US RFA Registry without Recurrence of Neoplasia in Five Years after Complete Eradication of Intestinal Metaplasia by Baseline Barrett's Segment Length.
Supplemental 5	Spline Estimate of the Baseline Hazard with Four Degrees of Freedom of the Proportion of Subjects in the US RFA Registry without Recurrence of Neoplasia in Five Years after Complete Eradication of Intestinal Metaplasia by Simplified Categories of Surveillance Risk.
Supplemental 6	Various Parameterizations of the Baseline Hazard Function Produce Similar Estimates of the Proportion of Subjects in the US RFA Registry without Recurrence of Neoplasia in Five Years after Complete Eradication of Intestinal Metaplasia among the Highest Category of Surveillance Risk.
Supplemental 7	Sensitivity Analysis with Random Imputation of Neoplastic Recurrence Events at One, Two, and Four Times the Modeled Rate of Recurrence of Neoplasia After Subjects are Censored for Recurrence and Retreatment of Non-dysplastic Barrett's Esophagus.