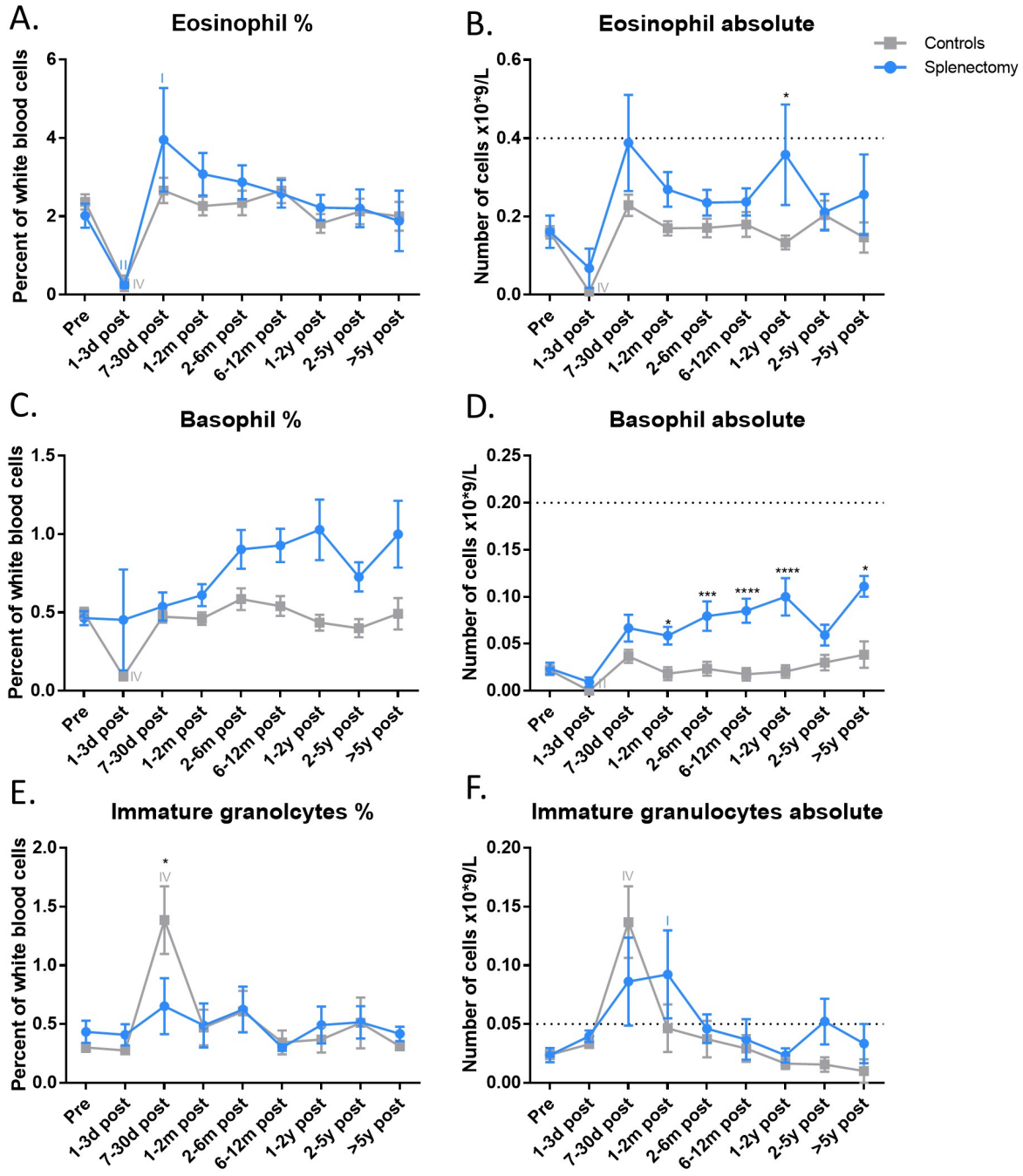Supplementary Figure 1. Changes in individual white blood cell populations – eosinophils, basophils, and immature granulocytes. The percentage (**A**) and absolute number (**B**) of eosinophils, the percentage (**C**) and absolute number (**D**) of basophils, and the percentage (**E**) and absolute number (**F**) of immature granulocytes per time point. The blue line indicates the splenectomized patients, the grey line the control surgery patients. The asterisks (*) indicate statistical significance between the two groups. The Roman numerals indicate statistical significance between a certain time point and baseline. */I indicate a *p*-value of ≤ 0.05, **/II of ≤ 0.01, ***/III of ≤ 0.001 and ****/IV of ≤ 0.0001. Dotted lines denote normal reference range.

Supplementary Table 1. Number of patients included at each blood draw timepoint.

Splenectomized Patients	White Blood Cell Count	Red Blood Cell Count	Platelet Count	Neutrophil %	Lymphocyte %	Monocyte %	Eosinophil %	Basophil %	Immature granulocyte %	Neutrophils absolute	Lymphocytes absolute	Monocytes absolute	Eosinophils absolute	Basophils absolute	Immature granulocytes absolute
Pre op	94	94	94	58	58	58	58	58	55	59	59	59	59	59	55
1-3d	92	92	91	68	68	68	68	68	66	68	68	68	68	68	64
7-30d	59	59	59	24	24	24	24	24	21	24	24	24	24	24	21
1-2m	34	34	34	30	30	30	29	29	26	30	30	30	29	29	26
2-6m	41	41	41	38	38	38	38	38	31	40	40	40	39	38	30
6-12m	31	31	30	25	25	25	25	25	21	27	27	27	27	27	23
1-2y	35	35	35	30	30	30	30	30	25	33	33	33	33	33	27
2-5y	30	30	30	23	23	23	23	23	20	27	27	26	26	26	22
>5y	9	9	9	6	6	6	6	6	6	9	9	9	9	9	9
Non-Splenectomized Patients															
Pre op	91	91	91	70	70	69	69	69	69	70	70	69	69	69	69
1-3d	86	86	86	75	75	75	75	75	75	75	75	75	75	75	74
7-30d	75	75	74	50	50	49	49	49	46	50	50	49	49	49	46
1-2m	36	36	36	34	34	33	33	33	32	34	34	33	33	33	32
2-6m	38	38	38	35	35	35	35	35	28	35	35	35	35	35	28
6-12m	35	35	35	35	35	34	34	34	27	35	35	34	34	34	27
1-2y	40	40	40	37	37	35	35	35	30	37	37	35	35	35	30
2-5y	44	44	44	35	35	35	35	35	31	40	40	39	39	39	31
>5y	15	15	15	12	12	12	12	12	10	12	12	12	12	12	10

Supplementary Table 2. Metal conjugated antibodies used.

Metal Conjugate	Specificity	Clustering	Metal Conjugate	Specificity	Clustering
Bi209	CD16	Figures 3,4,5	Nd143	CD123	Figures 3,4,5
Dy161	Tbet	Figures 3,4,5	Nd144	CCR5	Figures 3,4,5
Dy162	CD11c	Figures 3,4,5	Nd145	CD7	Figures 3,4,5
Dy164	CD15	Figures 3,5	Nd146	IgD	Figure 3
Er166	EOMES	Figures 3,4,5	Nd148	CD38	Figures 3,4,5
Er167	CCR7	Figures 3,4,5	Nd150	CD86	Figure 3,4,5
Er168	CD8a	Figures 3,4,5	Pr141	CCR6	Figures 3,4,5
Er170	CD33	Figures 3,4,5	Sm147	CD1c	Figures 3,4,5
Eu151	ICOS	Figures 3,4,5	Sm149	CD127	Figures 3,4,5
Eu153	CD11b	Figures 3,4,5	Sm152	CD141	Figures 3,4,5
Gd155	CD27	Figures 3,4,5	Sm154	CD3	Figure 3
Gd156	CXCR3	Figures 3,4,5	Tb159	PDL1	Figures 3,4,5
Gd158	PD1	Figures 3,4,5	Tm169	CD25	Figures 3,4,5
Gd160	CD14	Figures 3,5	Y89	CD45	Not used for clustering
Ho165	FoxP3	Figures 3,4,5	Yb171	CXCR5	Figures 3,4,5
In113	CD45RO	Figures 3,4,5	Yb172	IgM	Figure 3
In115	CD66b	Figures 3,5	Yb173	HLA-DR	Figures 3,4,5
Lu175	CCR4	Figures 3,4,5	Yb174	CD4	Figures 3,4,5
Nd142	CD19	Figure 3	Yb176	CD56	Figures 3,4,5

Supplementary Table 3. Markers used to identify cellular populations.

All CD45+ cells (Figure 3) (gated on CD45+ cells)	Markers used to identify cell types
B cells	CD19$^+$HLA-DR$^+$
T cells	CD3$^+$
Myeloid cells	CD3$^-$CD19$^-$CD11b/CD66b/CD14/CD15$^+$
NK and Other cells	CD3$^-$CD19$^-$CD14$^-$CD15$^-$CD56$^{+/-}$

T cells (Figure 4) (gated on CD45$^+$CD3$^+$CD19$^-$)	
Naïve CD4+ T cells	CD4$^+$CD45RO$^-$CD27$^+$CD127^{low}PD1$^-$CD38$^+$CD11b$^-$CD25$^-$Tbet$^-$CCR4^{low}CCR6^{low}CCR7^{low}
Memory/Effector Memory CD4+ T cells	CD4$^+$CD45RO$^+$CD27$^+$CD127^{High}PD1$^-$CD38$^-$ CD11b$^-$CD25$^+$Tbet$^-$CCR4^{High}CCR6$^+$CCR7$^-$
Terminally Differentiated CD4+ T cells	CD4$^+$CD45RO$^{+/-}$CD27$^-$CD127$^-$PD1$^+$CD38$^-$ CD11b$^+$CD25$^-$Tbet^{High}CCR4^{High}CCR6$^-$CCR7$^-$
Naïve CD8+ T cells	CD8$^+$ CD45RO$^-$CD27^{high}CD127^{low}PD1$^-$CD11b$^+$CD25$^-$Tbet$^-$CCR4^{low}CCR6^{low}CCR7^{low}
Memory/Effector Memory CD8+ T cells	CD8$^+$CD45RO$^{+/-}$CD27^{low}CD127^{low}PD1^{low}CD11b+CD25$^+$Tbet^{low}CCR4^{High}CCR6$^+$CCR7$^-$
Terminally Differentiated CD8+ T cells	CD8$^+$CD45RO$^{+/-}$CD27$^-$CD127$^-$PD1^{low}CD11b$^+$CD25$^-$Tbet^{High}CCR4^{High}CCR6$^-$CCR7$^-$

Myeloid cells (Figure 5) (gated on CD45$^+$CD3$^-$CD19$^-$)	
Neutrophils	CD14$^-$CD15$^+$CD66b$^+$CD11b$^+$CD16$^{+/-}$HLA-DR$^-$CCR4^{low}CCR6$^{-/low}$CCR7$^{+/-}$
Monocytes	CD14$^+$CD15$^-$CD66b$^-$CD11b$^+$CD16$^{-/low}$HLA-DR$^{+/-}$CCR4$^+$CCR6^{low}CCR7$^{-/low}$
Dendritic cells	CD14$^{-/low}$CD66b$^-$CD15$^-$CD11b$^+$CD11c$^+$HLA-DR^{High}CCR4+CCR6$^{+/-}$CCR7$^-$
NK and other cells	CD14-CD66b-CD15-CD56$^{+/-}$CD16$^{+/-}$HLA-DR$^{+/-}$CD25$^{+/-}$CCR4$^{+/-}$CCR6$^{-/low}$CCR7$^-$