**eTable 1. Diagnoses of the Control Cohort**

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| **Disease**  | **n** | **Age (years)** | **sNfL (pg/mL)** |
| **Endocrinological Diseases** | **91** | **12.2 [7.5, 14.5]** | **4.7 [3.6, 6.1]** |
| * Autoimmunological diseases of the thyroid gland
 | 12 | 10.5 [8.0, 15.0] | 5.2 [4.0, 5.8] |
| * Other diseases of the thyroid gland
 | 7 | 12.8 [11.5, 14.5] | 4.7 [4.3, 5.1] |
| * Stunted growth and high growth
 | 36 | 9.5 [6.1, 13.9] | 5.4 [3.9, 7.4] |
| * Diabetes mellitus type 1
 | 15 | 14.3 [11.4, 15.3] | 5.5 [3.4, 6.8] |
| * Obesity
 | 8 | 12.9 [9.5, 15.6] | 3.3 [2.7, 4.1] |
| * Puberty development and sex
 | 9 | 12.4 [7.5, 13.9] | 4.2 [3.7, 5.4] |
| * Others
 | 4 | 9.9 [8.9, 10.5] | 4.3 [3.7, 5.7] |
| **Gastroenterology** | **53** | **11.6 [8.8, 14.9]** | **4.2 [3.6, 5.5]** |
| * Chronic inflammatory bowel and celiac disease
 | 18 | 12.5 [10.0, 17.0] | 4.5 [3.9, 5.5] |
| * Liver diseases
 | 8 | 13.5 [8.9, 15.8] | 4.0 [3.3, 4.2] |
| * Abdominal pain
 | 20 | 11.5 [9.3, 12.0] | 4.2 [3.5, 5.9] |
| * Others
 | 7 | 9.3 [3.2, 11.1] | 4.4 [3.0, 5.8] |
| **Infektiology** | **51** | **4.4 [2.9, 8.7]** | **6.2 [4.7, 7.9]** |
| * Lymphadenopathy/lymphadenitis
 | 6 | 3.7 [3.3, 4.3] | 6.4 [5.8, 7.2] |
| * Airway infections
 | 23 | 4.4 [2.6, 6.9] | 6.3 [3.6, 7.8] |
| * Gastroenetritis
 | 7 | 3.3 [1.4, 4.5] | 5.9 [5.3, 6.8] |
| * Other localized infection/inflammatory processes
 | 9 | 7.3 [4.9, 10.1] | 5.7 [3.4, 7.9] |
| * Other generalized infections
 | 6 | 11.7 [5.2, 16.7] | 7.4 [5.8, 8.8] |
| **Nephrological Diseases** | **31** | **7.1 [3.6, 10.2]** | **5.3 [3.7, 8.3]** |
| * Malformations of the kidneys or urinary tract
 | 11 | 7.3 [5.1, 8.7] | 5.6 [3.8, 7.1] |
| * Haematuria and/or proteinuria
 | 15 | 7.1 [4.0, 10.7] | 4.6 [3.3, 6.7] |
| * Others
 | 5 | 4.9 [3.6, 6.8] | 12.4 [4.1, 14.9] |
| **Psychosomatic and psychiatric diseases** | **13** | **16.1 [14.0, 17.3]** | **5.0 [4.1, 6.5]** |
| **Rheumatic diseases and musculoskeletal system** | **11** | **10.1 [5.6, 12.3]** | **4.9 [3.8, 6.3]** |
| * Confirmed diagnosis of rheumatic diseases
 | 5 | 5.5 [3.8, 5.7] | 5.2 [4.9, 7.4] |
| * Pain of musculoskeletal system
 | 6 | 12.3 [10.6, 13.3] | 3.9 [3.1, 4.8] |
| **Hemato-Oncology** | **8** | **11.1 [8.6, 16.1]** | **4.1 [3.1, 5.5]** |
| **Dystrophies and feeding disorders** | **8** | **1.9 [1.5, 2.3]** | **9.1 [6.3, 11.1]** |
| **Allergology and atopy** | **7** | **8.0 [5.8, 12.8]** | **5.0 [4.9, 9.3]** |
| **Miscellaneous** | **9** | **14.5 [6.8, 16.6]** | **5.6 [4.5, 7.2]** |
| **Healthy, exclusion or status after a disease** | **19** | **14.5 [12.3, 16.0]** | **5.2 [4.1, 6.6]** |

Data are presented as median with IQR. Patients in the control cohort show a wide range of different diagnoses, n = 19 are healthy. Median age differs between different disease groups with youngest patients in the group of children with dystrophy and feeding disorders. This group also shows higher sNfL levels than most of the other groups. The only exception is the group of patients with nephrological diseases other than malformations, haematuria oder proteinuria. They had chronic renal failure stage III due to polycystic kidney disease (1.3 years old, sNfL 18.7 pg/mL), VACTERL association with renal agenesia (3.6 years, sNfL 12.4 pg/mL), renal Cysts and diabetes syndrome with chronic renal failure stage II (4.9 years, sNfL 14.9 pg/mL), renal tubular acidosis (12 years, sNfL 3.5 pg/mL) and nephropathy with nephrocalcinosis (6.8 years, sNfL 4.1 pg/mL).