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Auteurs: Shahram Oveisgharan, Armand Collin, Jingyun Yang, Sue E. Leurgans, Veronique VanderHorst, David A. Bennett, Julien Cohen-Adad, Osvaldo Delbono, & Aron S. Buchman
Authors:

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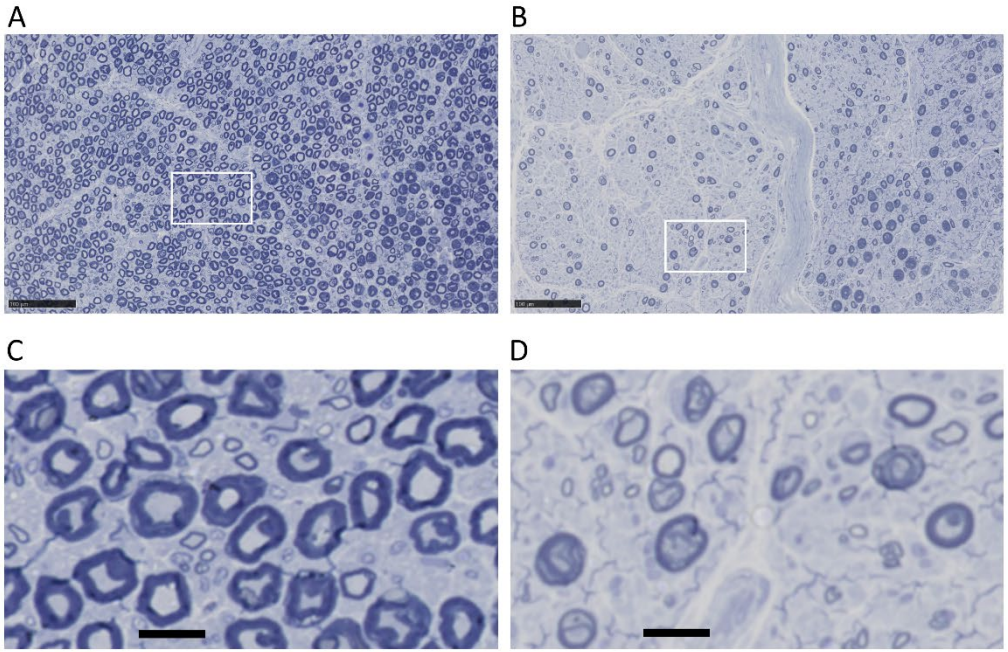
Supplementary Figure 1. Cross section of tibial nerve in an 84- (A) and 95- (B) year-old participant.



The images A-B were taken using a 40X microscope magnification and a 20X digital zoom, and a scale bar indicating 100 µm is included. The images C-D are the closeup of the rectangular areas in the images A-B, respectively, with an included scale bar indicating 15 µm. Each closed curve represents a myelinated nerve fiber with a peripheral dark blue ribbon, indicative of myelin, and a central pale segment indicative of axon. The myelinated nerve fibers are larger in the younger (**A**) compared to an older (**B**) participant.

Supplementary Table 1. Association of age at death with person-specific averages of the morphometric characteristics of tibial nerve.

Model term	Estimate (SE), p-value			
	Myelinated nerve fiber diameter	**Axon diameter**	**Myelin thickness**	**g-ratio**
Intercept	4.927 (0.088), <0.001	2.080 (0.037), <0.001	1.424 (0.028), <0.001	0.458 (0.004), <0.001
Age at death	-0.041 (0.014), 0.004	-0.014 (0.006), 0.017	-0.013 (0.004), 0.003	0.001 (0.001), 0.185
Sex (women vs. men)	0.072 (0.168), 0.667	0.079 (0.071), 0.263	-0.003 (0.052), 0.948	0.009 (0.007), 0.188

The second to fifth columns' numbers are derived from 4 separate linear regression models with the person-specific averages of the morphometric characteristics of tibial nerve as the outcome and the model terms listed in the left column.

Supplementary Table 2. Averages of percentages of myelinated nerve fibers in the 6 diameter groups.

Category of Myelinated nerve fiber diameter	Percentage	
	Mean (SD)	Range
<2 µm	11.7% (6.3)	3.9% – 48.4%
2 to <4 µm	40.7% (9.9)	13.9% – 65.1%
4 to <6 µm	21.2% (5.6)	3.7% – 38.5%
6 to <8 µm	8.5% (3.2)	1.7% – 18.1%
8 to <10 µm	8.1% (4.8)	0.9% – 27.1%
≥10 µm	9.9% (6.8)	0.6% – 44.6%

To calculate the percentages, each myelinated nerve fiber was classified into six groups based on their diameter. Then, for each person and each category, the percentage of myelinated nerve fibers in the size group was calculated. For example, 7075 myelinated nerve fibers were studied in a participant, and 595 of them had a diameter < 2 µm. The percentage of myelinated nerve fibers <2 µm in the participant was (595/7075)×100 = 8.4%. Summaries of these percentages across the 140 persons are shown.

Supplementary Table 3. The dispersion submodel of the compositional analysis of the association of age at death with the percentage of myelinated nerve fibers in the 6 diameter groups.

Model terms	Estimate (SE), p-value
Intercept	-0.784 (.062), <0.001
Age at death	0.004 (0.010), 0.702
Sex	0.042 (0.062), 0.495
Percent of myelinated nerve fibers of 2 to <4μm / Percent of myelinated nerve fibers of <2μm	REF.
Percent of myelinated nerve fibers of 4 to <6μm / Percent of myelinated nerve fibers of <2μm	0.392 (0.085), <0.001
Percent of myelinated nerve fibers of 6 to <8μm / Percent of myelinated nerve fibers of <2μm	0.375 (0.085), <0.001
Percent of myelinated nerve fibers of 8 to <10μm / Percent of myelinated nerve fibers of <2μm	0.569 (0.085), <0.001
Percent of myelinated nerve fibers of ≥10μm / Percent of myelinated nerve fibers of <2μm	0.780 (0.085), <0.001
Age×(Percent of myelinated nerve fibers of 4 to <6μm / Percent of myelinated nerve fibers of <2μm)	0.018 (0.013), 0.176
Age×(Percent of myelinated nerve fibers of 6 to <8μm / Percent of myelinated nerve fibers of <2μm)	0.019 (0.013), 0.160
Age×(Percent of myelinated nerve fibers of 8 to <10μm / Percent of myelinated nerve fibers of <2μm)	0.022 (0.014), 0.109
Age×(Percent of myelinated nerve fibers of ≥10μm / Percent of myelinated nerve fibers of <2μm)	0.020 (0.014), 0.168

The second column numbers are derived from a heteroscedastic normal distribution log-ratio regression model with the model terms listed in the left column and the outcome is ratio of the percentage of myelinated nerve fibers in 2-4, 4-6, 6-8, 8-10, or ≥10μm to percentage of myelinated nerve fibers with the size of 0-2μm.

Supplementary Table 4. The compositional analysis of the association of age at death with the percentage of myelinated nerve fibers in the 6 diameter groups with different terms in the location and dispersion submodels.

Model terms	Location submodel	Dispersion submodel
	Estimate (SE), p-value	
Intercept	1.311 (.042), <0.001	-0.775 (.063), <0.001
Age at death	0.001 (0.007), 0.823	0.019 (0.004), <0.001
Sex	0.025 (0.056), 0.657	0.042 (0.062), 0.498
Percent of myelinated nerve fibers of 2 to <4μm / Percent of myelinated nerve fibers of <2μm	REF.	REF.
Percent of myelinated nerve fibers of 4 to <6μm / Percent of myelinated nerve fibers of <2μm	-0.660 (0.071), <0.001	0.384 (0.085), <0.001
Percent of myelinated nerve fibers of 6 to <8μm / Percent of myelinated nerve fibers of <2μm	-1.605 (0.070), <0.001	0.367 (0.085), <0.001
Percent of myelinated nerve fibers of 8 to <10μm / Percent of myelinated nerve fibers of <2μm	-1.758 (0.080), <0.001	0.562 (0.085), <0.001
Percent of myelinated nerve fibers of ≥10μm / Percent of myelinated nerve fibers of <2μm	-1.620 (0.095), <0.001	0.772 (0.085), <0.001
Age×(Percent of myelinated nerve fibers of 4 to <6μm / Percent of myelinated nerve fibers of <2μm)	-0.007 (0.012), 0.547	NA
Age×(Percent of myelinated nerve fibers of 6 to <8μm / Percent of myelinated nerve fibers of <2μm)	-0.018 (0.012), 0.123	NA
Age×(Percent of myelinated nerve fibers of 8 to <10μm / Percent of myelinated nerve fibers of <2μm)	-0.035 (0.013), 0.009	NA
Age×(Percent of myelinated nerve fibers of ≥10μm / Percent of myelinated nerve fibers of <2μm)	-0.039 (0.016), 0.015	NA

Because the interaction terms between age and diameter groups were not significant in the dispersion submodel of Supplementary Table 3, in a heteroscedastic model we removed the interaction terms from the dispersion submodel.

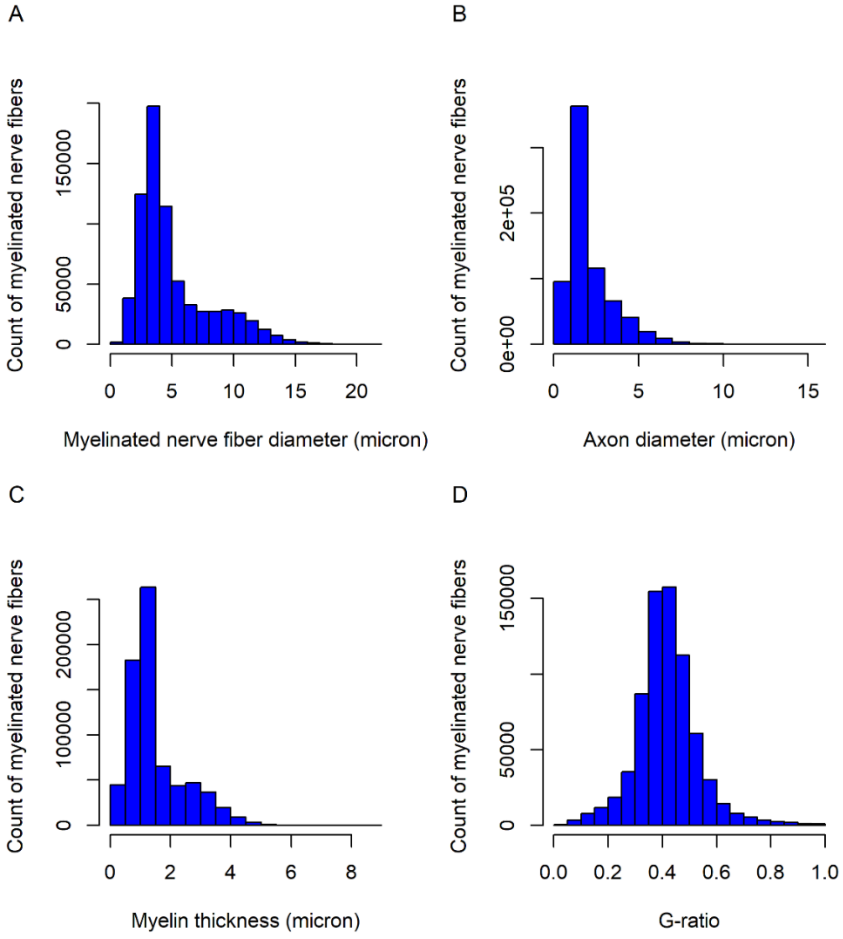
Supplementary Figure 2. Association of age at death with density of myelinated nerve fibers.

In a linear regression model, myelinated nerve fiber density was the outcome and age at death as the model term, controlled for sex. The sample size was 134 because the nerve area was missed in 9 participants. Each dot represents the myelinated nerve fiber density of the tibial nerve and age at death of a participant.

Supplementary Table 5. Descriptive statistics of the myelinated nerve fibers after removing 37729 myelinated nerve fibers with g-ratio=1.

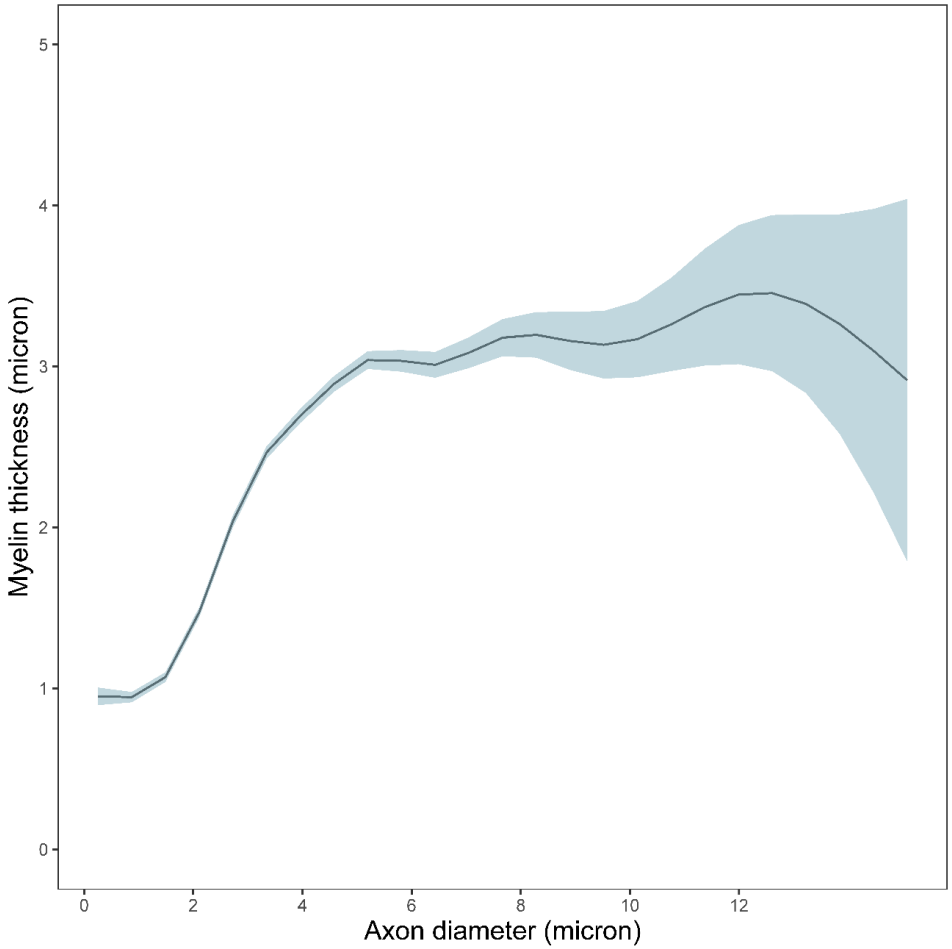
Characteristics	Mean (SD) or count
The myelinated nerve fibers altogether	
Number of the examined myelinated nerve fibers	716518
Diameter of myelinated nerve fiber, (μm)	5.1 (3.0)
Axon diameter, (μm)	2.1 (1.4)
Myelin thickness, (μm)	1.5 (0.9)
G-ratio	0.42 (0.11)
Characteristics at person-level	
Number of the myelinated nerve fibers per participant	5118.0 (3334.1)
Person-specific average of myelinated nerve fiber diameter, (μm)	5.2 (0.9)
Person-specific average of axon diameter, (μm)	2.1 (0.4)
Person-specific average of myelin thickness, (μm)	1.5 (0.3)
Person-specific average of g-ratio	0.42 (0.02)
Myelinated nerve fiber density, (count/mm^2)	4721.3 (1970.4)

Supplementary Figure 3. Distribution of morphometric characteristics of myelinated nerve fibers (n=716518) after removing 37729 myelinated nerve fibers with g-ratio=1.



Histogram of 716518 myelinated nerve fibers illustrating their distribution by the diameter of the myelinated nerve fiber (A), axonal diameter (B), myelin thickness (C), and g-ratio (D). The 716518 myelinated nerve fibers from selected from the pool of 754247 nerve fibers after excluding myelinated nerve fibers with g-ratio=1.

Supplementary Figure 4. Associations of axon diameter with myelin thickness after removing 37729 myelinated nerve fibers with g-ratio=1.



Association between axon diameter and myelin thickness derived from a generalized additive mixed model, using the *gamm* function from *mgcv* package[1] in R, analyzing 14000 myelinated nerve fibers, which included 100 randomly selected myelinated nerve fibers from each of 140 participants. The 14000 myelinated nerve fibers were selected from 716518 myelinated nerve fibers, which were

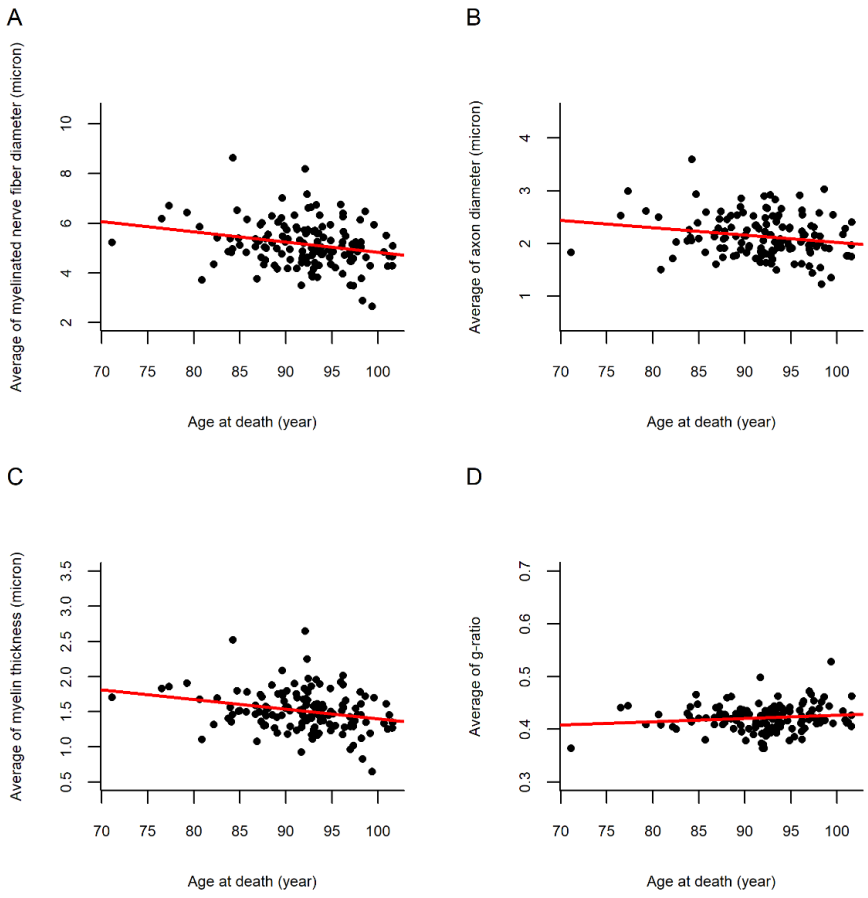
prepared by excluding 37729 out of the pool of 754247 myelinated nerve fibers that had a g-ratio=1. The Y-axis is the estimated myelin thickness. The shaded blue area around the curve indicates 95% confidence interval of myelin thickness.

Supplementary Table 6. Associations of age at death with person-specific averages of the morphometric characteristics of the tibial nerve, calculated after removing 37729 myelinated nerve fibers with g-ratio=1.

Morphometric characteristics	Associations of age at death	
	Spearman correlation coefficient, p-value	Estimate (SE), p-value
Person-specific average of myelinated nerve fiber diameter	-0.23, 0.007	-0.042 (0.014), 0.004
Person-specific average of axon diameter	-0.16, 0.056	-0.015 (0.006), 0.017
Person-specific average of myelin thickness	-0.26, 0.002	-0.014 (0.004), 0.002
Person-specific average of g-ratio	0.10, 0.23	0.0005 (0.0004), 0.18
Myelinated nerve fiber density	0.08, 0.34	6.77 (32.48), 0.84

In 5 separate linear regression models, each of the person-specific averages of the morphometric characteristics of the tibial nerve was the outcome, and age at death and sex were the model terms. The person-specific averages of the morphometric characteristics were calculated after exclusion of 37729 myelinated nerve fibers that had g-ratio=1. Age at death was associated with smaller myelinated nerve fibers, smaller axons, and thinner myelin, but g-ratio and myelinated nerve fiber density were not related to age at death.

Supplementary Figure 5. Scatter plots of age at death in relation to person-specific averages of myelinated nerve fiber characteristics, calculated after removing 37729 myelinated nerve fibers with g-ratio=1.

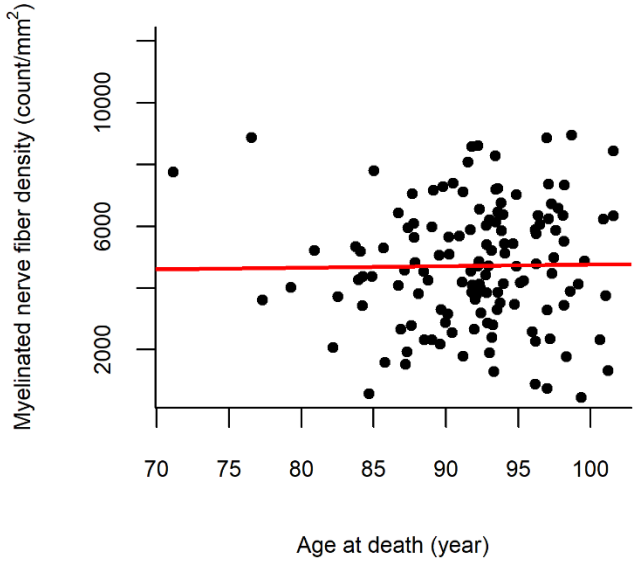


The 4 scatter plots illustrate the association between age at death and person-specific averages of myelinated nerve fibers diameter (A), axonal diameter (B), myelin thickness (C), and g-ratio (D). The person-specific averages were calculated from 716518 myelinated nerve fibers, which were prepared by excluding 37729 out of the pool of 754247 myelinated nerve fibers that had a g-ratio=1. Each dot represents a participant's age at death (x-axis) and one of the person-specific averages of the morphometric characteristics. The red lines are derived from linear regression models including 140 participants.

Supplementary Table 7. Association of age at death with the percentage of myelinated nerve fibers of different diameters, calculated after removing 37729 myelinated nerve fibers with g-ratio=1.

Model terms	Estimate (SE), p-value
Intercept	1.996 (0.041), <0.001
Age at death	-0.001 (0.007), 0.892
Sex	0.051 (0.058), 0.375
Percent of myelinated nerve fibers 2 to <4μm / Percent of myelinated nerve fibers <2μm	REF.
Percent of myelinated nerve fibers 4 to <6μm / Percent of myelinated nerve fibers <2μm	-0.656 (0.072), <0.001
Percent of myelinated nerve fibers 6 to <8μm / Percent of myelinated nerve fibers <2μm	-1.600 (0.075), <0.001
Percent of myelinated nerve fibers 8 to <10μm / Percent of myelinated nerve fibers <2μm	-1.753 (0.085), <0.001
Percent of myelinated nerve fibers ≥10μm / Percent of myelinated nerve fibers <2μm	-1.616 (0.099), <0.001
Age × (Percent of myelinated nerve fibers 4 to <6μm / Percent of myelinated nerve fibers <2μm)	-0.008 (0.012), 0.544
Age × (Percent of myelinated nerve fibers 6 to <8μm / Percent of myelinated nerve fibers <2μm)	-0.018 (0.013), 0.160
Age × (Percent of myelinated nerve fibers 8 to <10μm / Percent of myelinated nerve fibers <2μm)	-0.035 (0.015), 0.017
Age × (Percent of myelinated nerve fibers ≥10μm / Percent of myelinated nerve fibers <2μm)	-0.040 (0.017), 0.019

Supplementary Figure 6. Association of age at death with density of myelinated nerve fibers, calculated after removing 37729 myelinated nerve fibers with g-ratio=1.



In a linear regression model, myelinated nerve fiber density was the outcome and age at death as the model term, controlled for sex. Myelinated nerve fiber density was calculated after excluding myelinated nerve fibers with g-ratio = 1. The sample size was 134 because the nerve area was missed in 9 participants. Each dot represents the myelinated nerve fiber density of the tibial nerve and age at death of a participant.

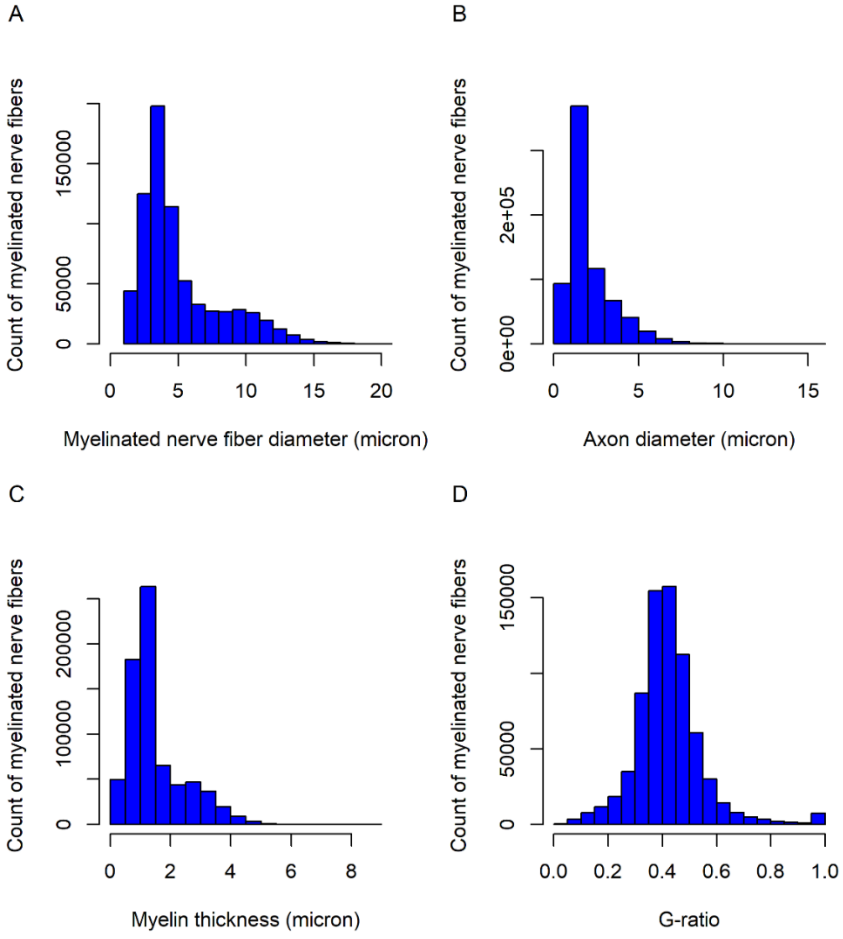
Supplementary Table 8. Association of age at death with g-ratio of the myelinated nerve fibers classified by their diameter after removing 37729 myelinated nerve fibers with g-ratio=1.

Model terms	**Estimate (SE), p-value**
Intercept	0.425 (0.003), <0.001
Age at death	0.0004 (0.0004), 0.329
Sex	-0.010 (0.002), <0.001
Myelinated nerve fibers <2µm	0.153 (0.007), <0.001
Myelinated nerve fibers 2 to <4 µm	-0.012 (0.003), <0.001
Myelinated nerve fibers 4 to <6 µm	-0.006 (0.003), 0.076
Myelinated nerve fibers 6 to <8µm	-0.007 (0.004), 0.079
Myelinated nerve fibers 8 to <10µm	-0.028 (0.004), <0.001
Myelinated nerve fibers ≥10µm	**REF**
Age×Myelinated nerve fibers <2µm	-0.0009 (0.0012), 0.468
Age×Myelinated nerve fibers 2 to <4µm	-0.0009 (0.0005), 0.084
Age×Myelinated nerve fibers 4 to <6µm	-0.0002 (0.0006), 0.761
Age×Myelinated nerve fibers 6 to <8µm	0.0006 (0.0007), 0.407
Age×Myelinated nerve fibers 8 to <10µm	0.0004 (0.0006), 0.559

Supplementary Table 9. Descriptive statistics of the myelinated nerve fibers after removing 32707 myelinated nerve fibers with a diameter < 1 µm.

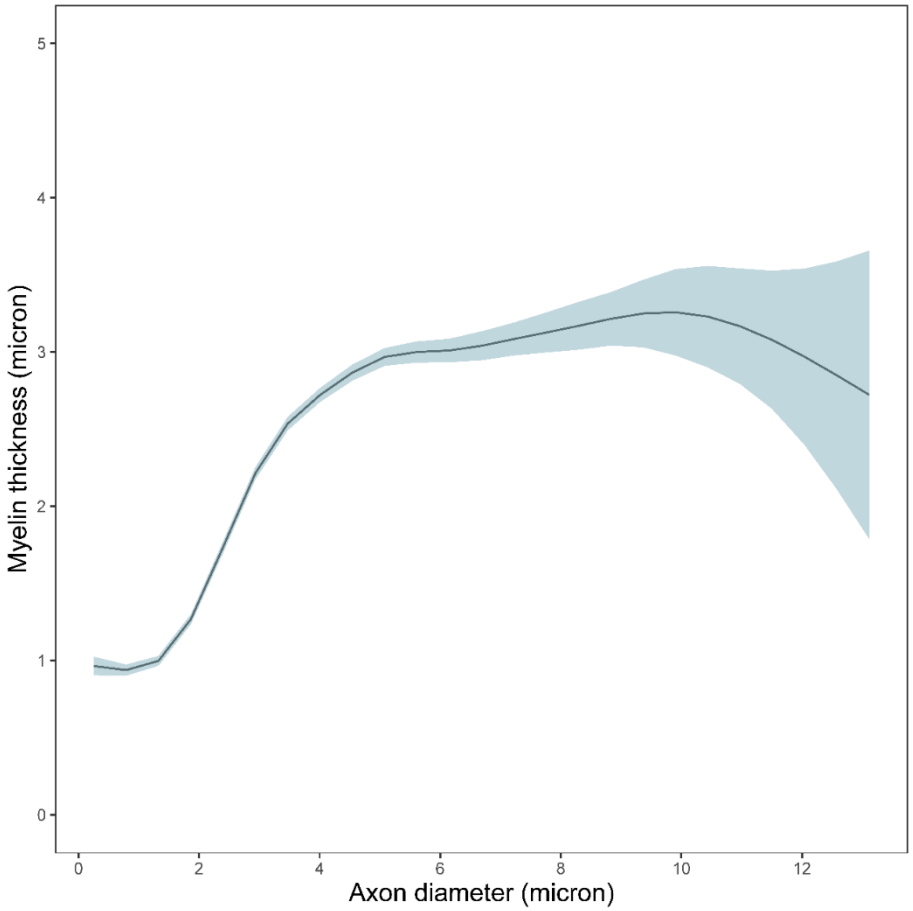
Characteristics	Mean (SD) or count
The myelinated nerve fibers altogether	
Number of the examined myelinated nerve fibers	721540
Diameter of myelinated nerve fiber, (µm)	5.1 (3.0)
Axon diameter, (µm)	2.1 (1.4)
Myelin thickness, (µm)	1.5 (0.9)
G-ratio	0.42 (0.13)
Characteristics at person-level	
Number of the myelinated nerve fibers per participant	5153.9 (3343.8)
Person-specific average of myelinated nerve fiber diameter, (µm)	5.1 (0.9)
Person-specific average of axon diameter, (µm)	2.1 (0.4)
Person-specific average of myelin thickness, (µm)	1.5 (0.3)
Person-specific average of g-ratio	0.43 (0.03)
Myelinated nerve fiber density, (count/mm^2)	4760.1 (1978.6)

Supplementary Figure 7. Distribution of morphometric characteristics of myelinated nerve fibers (n=721540) after removing 32707 myelinated nerve fibers with a diameter < 1 µm.



Histogram of 721540 myelinated nerve fibers illustrating their distribution by the diameter of the myelinated nerve fiber (A), axonal diameter (B), myelin thickness (C), and g-ratio (D). The 721540 myelinated nerve fibers from selected from the pool of 754247 nerve fibers after excluding myelinated nerve fibers with a diameter < 1 µm.

Supplementary Figure 8. Associations of axon diameter with myelin thickness after removing 32707 myelinated nerve fibers with a diameter < 1 µm.



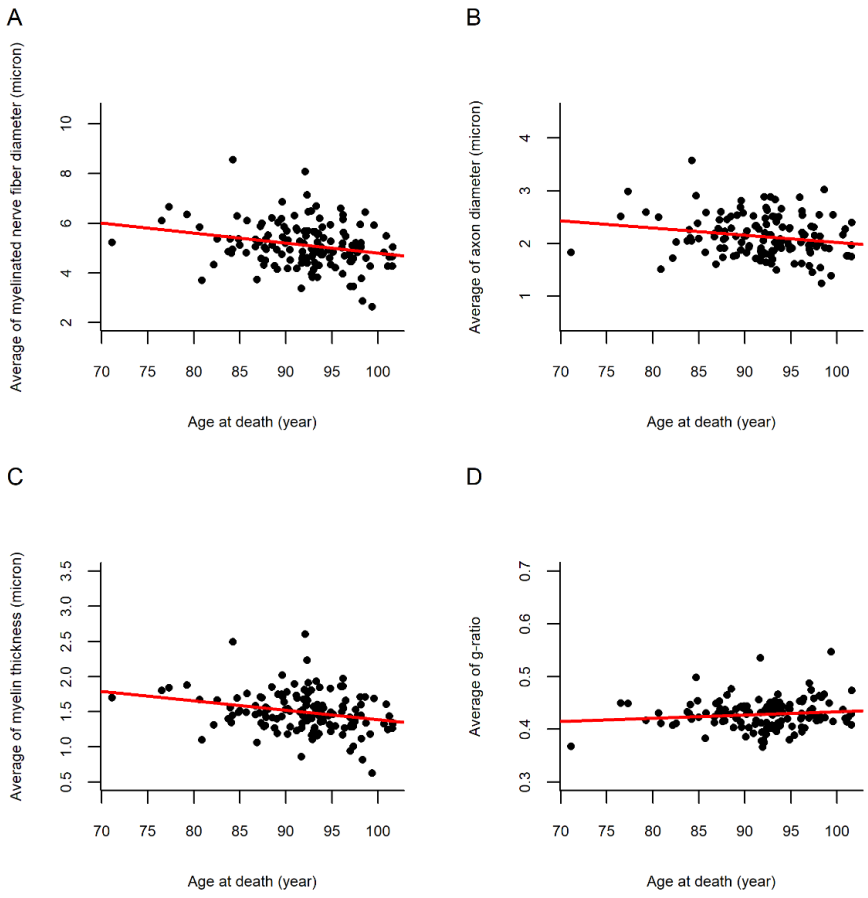
Association between axon diameter and myelin thickness derived from a generalized additive mixed model, using the *gamm* function from *mgcv* package[1] in R, analyzing 14000 myelinated nerve fibers, which included 100 randomly selected myelinated nerve fibers from each of 140 participants. The 14000 myelinated nerve fibers were selected from 721540 myelinated nerve fibers, which were prepared by excluding 32707 out of the pool of 754247 myelinated nerve fibers that had a diameter < 1 µm. The Y-axis is the estimated myelin thickness. The shaded blue area around the curve indicates 95% confidence interval of myelin thickness.

Supplementary Table 10. Associations of age at death with person-specific averages of the morphometric characteristics of the tibial nerve, calculated after removing 32707 myelinated nerve fibers with a diameter < 1 µm.

Morphometric characteristics	Associations of age at death	
	Spearman correlation coefficient, p-value	Estimate (SE), p-value
Person-specific average of myelinated nerve fiber diameter	-0.23, 0.006	-0.041 (0.014), 0.004
Person-specific average of axon diameter	-0.16, 0.062	-0.014 (0.006), 0.017
Person-specific average of myelin thickness	-0.26, 0.002	-0.014 (0.004), 0.002
Person-specific average of g-ratio	0.09, 0.30	0.0005 (0.0004), 0.22
Myelinated nerve fiber density	0.08, 0.35	6.64 (32.61), 0.84

In 5 separate linear regression models, each of the person-specific averages of the morphometric characteristics of the tibial nerve was the outcome, and age at death and sex were the model terms. The person-specific averages of the morphometric characteristics were calculated after exclusion of 32707 myelinated nerve fibers with a diameter < 1 µm. Age at death was associated with smaller myelinated nerve fibers, smaller axons, and thinner myelin, but g-ratio and myelinated nerve fiber density were not related to age at death.

Supplementary Figure 9. Scatter plots of age at death in relation to person-specific averages of myelinated nerve fiber characteristics, calculated after removing 32707 myelinated nerve fibers with a diameter < 1 µm.

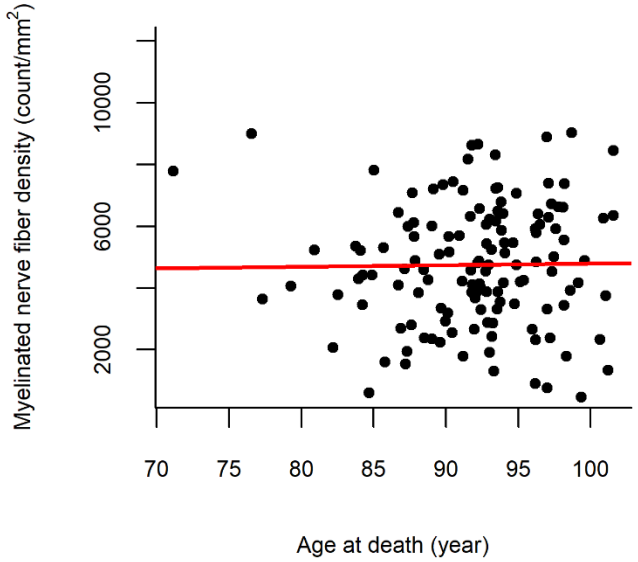


The 4 scatter plots illustrate the association between age at death and person-specific averages of myelinated nerve fibers diameter (A), axonal diameter (B), myelin thickness (C), and g-ratio (D). The person-specific averages were calculated from 721540 myelinated nerve fibers, which were prepared by excluding 32707 out of the pool of 754247 myelinated nerve fibers that had a diameter < 1 µm. Each dot represents a participant's age at death (x-axis) and one of the person-specific averages of the morphometric characteristics. The red lines are derived from linear regression models including 140 participants.

Supplementary Table 11. Association of age at death with the percentage of myelinated nerve fibers of different diameters, calculated after removing 32707 myelinated nerve fibers with a diameter < 1 µm.

Model terms	Estimate (SE), p-value
Intercept	1.875 (0.041), <0.001
Age at death	0.000 (0.006), 0.953
Sex	0.025 (0.055), 0.647
Percent of myelinated nerve fibers 2 to <4µm / Percent of myelinated nerve fibers <2µm	REF.
Percent of myelinated nerve fibers 4 to <6µm / Percent of myelinated nerve fibers <2µm	-0.660 (0.070), <0.001
Percent of myelinated nerve fibers 6 to <8µm / Percent of myelinated nerve fibers <2µm	-1.605 (0.070), <0.001
Percent of myelinated nerve fibers 8 to <10µm / Percent of myelinated nerve fibers <2µm	-1.758 (0.080), <0.001
Percent of myelinated nerve fibers ≥10µm / Percent of myelinated nerve fibers <2µm	-1.621 (0.094), <0.001
Age × (Percent of myelinated nerve fibers 4 to <6µm / Percent of myelinated nerve fibers <2µm)	-0.007 (0.012), 0.551
Age × (Percent of myelinated nerve fibers 6 to <8µm / Percent of myelinated nerve fibers <2µm)	-0.018 (0.012), 0.136
Age × (Percent of myelinated nerve fibers 8 to <10µm / Percent of myelinated nerve fibers <2µm)	-0.035 (0.014), 0.011
Age × (Percent of myelinated nerve fibers ≥10µm / Percent of myelinated nerve fibers <2µm)	-0.039 (0.016), 0.015

Supplementary Figure 10. Association of age at death with density of myelinated nerve fibers, calculated after removing 32707 myelinated nerve fibers with a diameter < 1 µm.



In a linear regression model, myelinated nerve fiber density was the outcome and age at death as the model term, controlled for sex. Myelinated nerve fiber density was calculated after excluding myelinated nerve fibers with a diameter < 1 µm. The sample size was 134 because the nerve area was missed in 9 participants. Each dot represents the myelinated nerve fiber density of the tibial nerve and age at death of a participant.

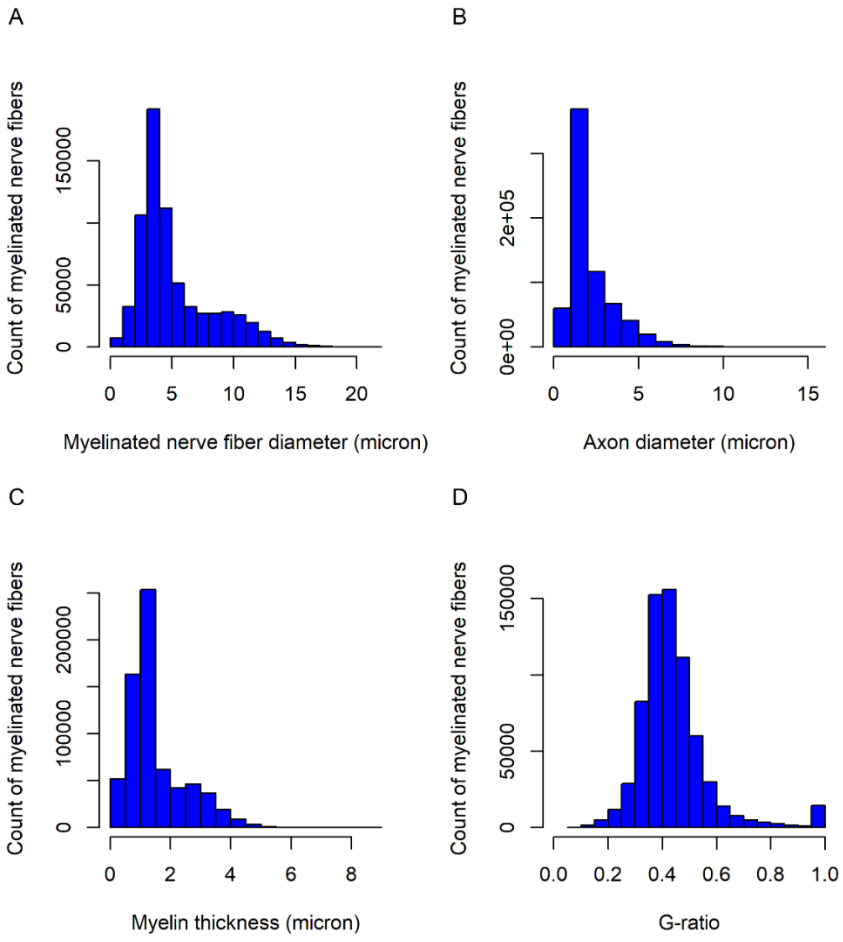
Supplementary Table 12. Association of age at death with g-ratio of the myelinated nerve fibers classified by their diameter after removing 32707 myelinated nerve fibers with a diameter < 1 µm.

Model terms	**Estimate (SE), p-value**
Intercept	0.422 (0.003), <0.001
Age at death	0.0013 (0.0004), 0.002
Sex	-0.006 (0.002), 0.005
Myelinated nerve fibers <2µm	0.215 (0.008), <0.001
Myelinated nerve fibers 2 to <4 µm	-0.009 (0.003), 0.004
Myelinated nerve fibers 4 to <6 µm	-0.002 (0.003), 0.475
Myelinated nerve fibers 6 to <8µm	-0.011 (0.004), 0.012
Myelinated nerve fibers 8 to <10µm	-0.023 (0.004), <0.001
Myelinated nerve fibers ≥10µm	**REF**
Age×Myelinated nerve fibers <2µm	-0.004 (0.001), 0.003
Age×Myelinated nerve fibers 2 to <4µm	-0.0016 (0.0005), 0.002
Age×Myelinated nerve fibers 4 to <6µm	-0.0011 (0.0005), 0.038
Age×Myelinated nerve fibers 6 to <8µm	0.0006 (0.0008), 0.443
Age×Myelinated nerve fibers 8 to <10µm	0.0015 (0.0006), 0.020

Supplementary Table 13. Descriptive statistics of the myelinated nerve fibers after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.

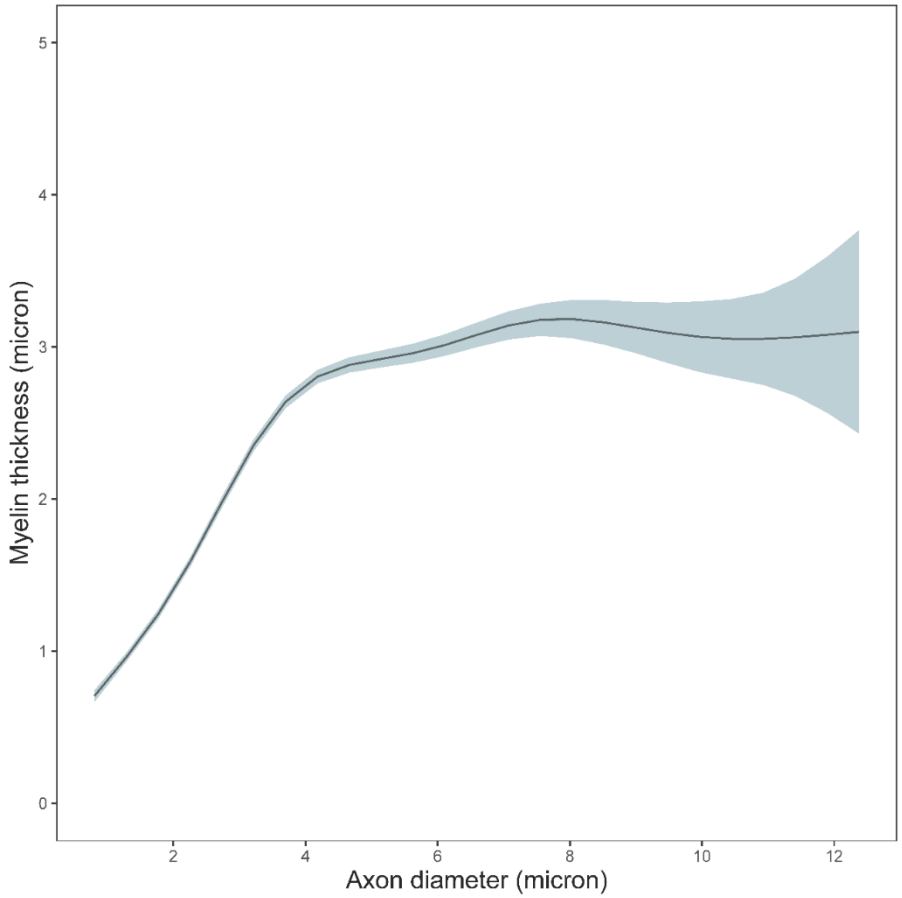
Characteristics	Mean (SD) or count
The myelinated nerve fibers altogether	
Number of the examined myelinated nerve fibers	687697
Diameter of myelinated nerve fiber, (µm)	5.2 (3.0)
Axon diameter, (µm)	2.2 (1.4)
Myelin thickness, (µm)	1.5 (1.0)
G-ratio	0.44 (0.13)
Characteristics at person-level	
Number of the myelinated nerve fibers per participant	4912.1 (3153.7)
Person-specific average of myelinated nerve fiber diameter, (µm)	5.2 (0.9)
Person-specific average of axon diameter, (µm)	2.2 (0.4)
Person-specific average of myelin thickness, (µm)	1.5 (0.3)
Person-specific average of g-ratio	0.45 (0.03)
Myelinated nerve fiber density, (count/mm^2)	4544.4 (1883.2)

Supplementary Figure 11. Distribution of morphometric characteristics of myelinated nerve fibers (n=687697) after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.



Histogram of 687697 myelinated nerve fibers illustrating their distribution by the diameter of the myelinated nerve fiber (A), axonal diameter (B), myelin thickness (C), and g-ratio (D). The 687697 myelinated nerve fibers from selected from the pool of 754247 nerve fibers after excluding myelinated nerve fibers with an axonal diameter < 0.8 µm.

Supplementary Figure 12. Associations of axon diameter with myelin thickness after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.



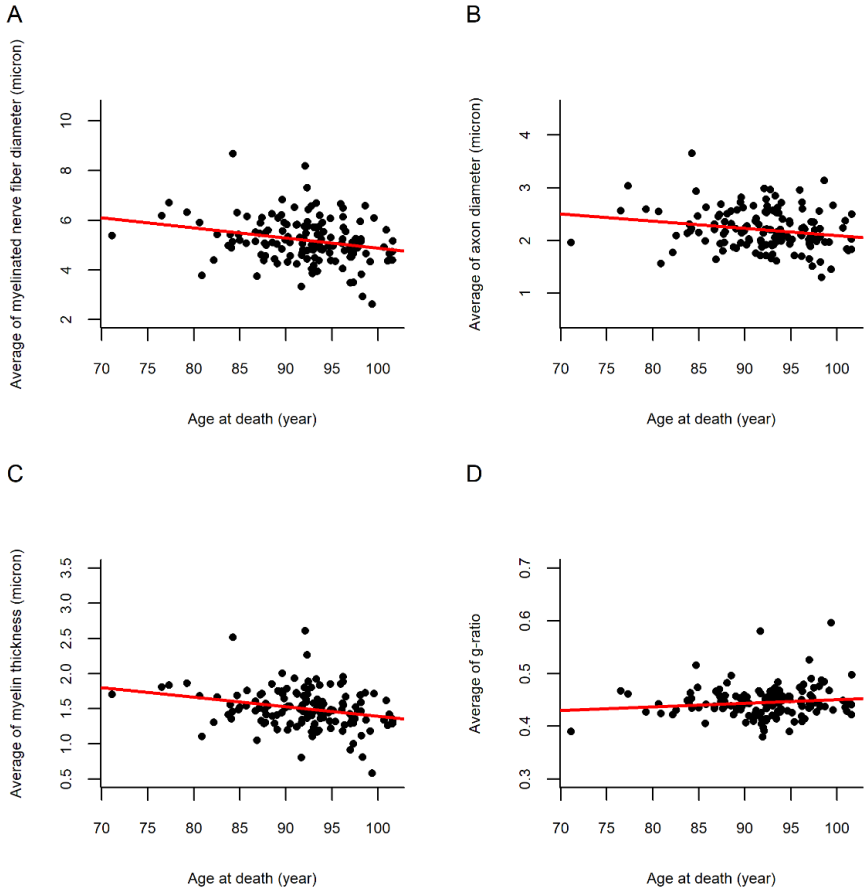
Association between axon diameter and myelin thickness derived from a generalized additive mixed model, using the *gamm* function from *mgcv* package[1] in R, analyzing 14000 myelinated nerve fibers, which included 100 randomly selected myelinated nerve fibers from each of 140 participants. The 14000 myelinated nerve fibers were selected from 687697 myelinated nerve fibers, which were prepared by excluding 66550 out of the pool of 754247 myelinated nerve fibers that had an axonal diameter < 0.8 µm. The Y-axis is the estimated myelin thickness. The shaded blue area around the curve indicates 95% confidence interval of myelin thickness.

Supplementary Table 14. Associations of age at death with person-specific averages of the morphometric characteristics of the tibial nerve, calculated after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.

Morphometric characteristics	Associations of age at death	
	Spearman correlation coefficient, p-value	Estimate (SE), p-value
Person-specific average of myelinated nerve fiber diameter	-0.24, 0.005	-0.042 (0.014), 0.003
Person-specific average of axon diameter	-0.17, 0.043	-0.015 (0.006), 0.016
Person-specific average of myelin thickness	-0.26, 0.002	-0.014 (0.004), 0.002
Person-specific average of g-ratio	0.09, 0.31	0.0006 (0.0005), 0.20
Myelinated nerve fiber density	0.08, 0.36	6.77 (31.04), 0.83

In 5 separate linear regression models, each of the person-specific averages of the morphometric characteristics of the tibial nerve was the outcome, and age at death and sex were the model terms. The person-specific averages of the morphometric characteristics were calculated after exclusion of 66550 myelinated nerve fibers with a diameter < 0.8 µm. Age at death was associated with smaller myelinated nerve fibers, smaller axons, and thinner myelin, but g-ratio and myelinated nerve fiber density were not related to age at death.

Supplementary Figure 13. Scatter plots of age at death in relation to person-specific averages of myelinated nerve fiber characteristics, calculated after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.

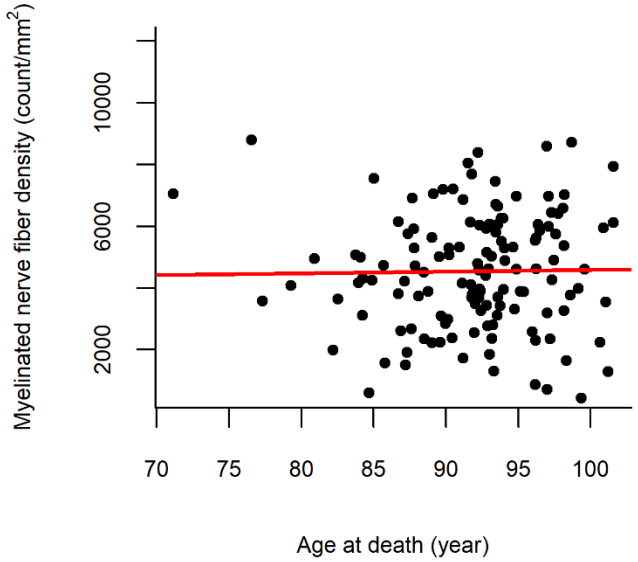


The 4 scatter plots illustrate the association between age at death and person-specific averages of myelinated nerve fibers diameter (A), axonal diameter (B), myelin thickness (C), and g-ratio (D). The person-specific averages were calculated from 687697 myelinated nerve fibers, which were prepared by excluding 66550 out of the pool of 754247 myelinated nerve fibers that had an axonal diameter < 0.8 µm. Each dot represents a participant's age at death (x-axis) and one of the person-specific averages of the morphometric characteristics. The red lines are derived from linear regression models including 140 participants.

Supplementary Table 15. Association of age at death with the percentage of myelinated nerve fibers of different diameters, calculated after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.

Model terms	Estimate (SE), p-value
Intercept	1.885 (0.046), <0.001
Age at death	0.002 (0.007), 0.759
Sex	0.027 (0.057), 0.629
Percent of myelinated nerve fibers 2 to <4µm / Percent of myelinated nerve fibers <2µm	REF.
Percent of myelinated nerve fibers 4 to <6µm / Percent of myelinated nerve fibers <2µm	-0.609 (0.074), <0.001
Percent of myelinated nerve fibers 6 to <8µm / Percent of myelinated nerve fibers <2µm	-1.543 (0.072), <0.001
Percent of myelinated nerve fibers 8 to <10µm / Percent of myelinated nerve fibers <2µm	-1.685 (0.080), <0.001
Percent of myelinated nerve fibers ≥10µm / Percent of myelinated nerve fibers <2µm	-1.545 (0.095), <0.001
Age × (Percent of myelinated nerve fibers 4 to <6µm / Percent of myelinated nerve fibers <2µm)	-0.006 (0.012), 0.600
Age × (Percent of myelinated nerve fibers 6 to <8µm / Percent of myelinated nerve fibers <2µm)	-0.018 (0.012), 0.138
Age × (Percent of myelinated nerve fibers 8 to <10µm / Percent of myelinated nerve fibers <2µm)	-0.035 (0.013), 0.009
Age × (Percent of myelinated nerve fibers ≥10µm / Percent of myelinated nerve fibers <2µm)	-0.038 (0.016), 0.016

Supplementary Figure 14. Association of age at death with density of myelinated nerve fibers, calculated after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.



In a linear regression model, myelinated nerve fiber density was the outcome and age at death as the model term, controlled for sex. Myelinated nerve fiber density was calculated after excluding myelinated nerve fibers with an axonal diameter < 0.8 µm. The sample size was 134 because the nerve area was missed in 9 participants. Each dot represents the myelinated nerve fiber density of the tibial nerve and age at death of a participant.

Supplementary Table 16. Association of age at death with g-ratio of the myelinated nerve fibers classified by their diameter after removing 66550 myelinated nerve fibers with an axon diameter < 0.8 µm.

Model terms	**Estimate (SE), p-value**
Intercept	0.425 (0.003), <0.001
Age at death	0.0013 (0.0005), 0.007
Sex	-0.007 (0.002), <0.001
Myelinated nerve fibers <2µm	0.347 (0.007), <0.001
Myelinated nerve fibers 2 to <4 µm	0.003 (0.003), 0.253
Myelinated nerve fibers 4 to <6 µm	0.001 (0.003), 0.654
Myelinated nerve fibers 6 to <8µm	-0.012 (0.004), 0.005
Myelinated nerve fibers 8 to <10µm	-0.014 (0.004), <0.001
Myelinated nerve fibers ≥10µm	**REF**
Age×Myelinated nerve fibers <2µm	-0.003 (0.001), 0.010
Age×Myelinated nerve fibers 2 to <4µm	-0.0021 (0.0005), <0.001
Age×Myelinated nerve fibers 4 to <6µm	-0.0012 (0.0006), 0.027
Age×Myelinated nerve fibers 6 to <8µm	-0.0002 (0.0007), 0.807
Age×Myelinated nerve fibers 8 to <10µm	-0.0005 (0.0006), 0.439

Supplementary references

1. Wood S. Package ‘mgcv.’ Published online 2023. Accessed July 11, 2024. https://cran.r-project.org/web/packages/mgcv/mgcv.pdf