

# COVID-19 Volumetric Report Package

CorTechs Labs is bringing the most widely used clinical brain quantification tool to aid in the COVID-19 pandemic. This package is free for all clinical facilities seeing COVID-19 patients or for COVID-19 research.

## COMPLIMENTARY REPORT PACKAGE

### 1. LesionQuant FLAIR Lesion Report

According to recent clinical findings, COVID-19 patients under the age of 50 are often presenting with large vessel strokes. The LesionQuant report gives detailed volumetric structural brain measurements in addition to lesion volumes, percent of intracranial volume, normative percentiles, and total lesion burden.

### 2. NeuroQuant Triage Brain Atrophy (TBA)

The TBA report allows for quick identification of swelling in the whole brain, and brain regions, particularly the frontal and temporal lobes as seen in some severe COVID-19 cases. For encephalitis, volumes for the whole brain, individual lobes, and numerous structures relevant to COVID-19 are given, providing an immediate overview from a global and individual structure perspective.

### 3. Custom COVID-19 Report

The Custom COVID-19 Report includes brain structures that could be affected by COVID-19: cerebellum, brainstem, whole brain, frontal lobes, frontal poles, medial orbitofrontal lobes, anterior middle frontal lobes, thalamus, amygdalae and cerebral white matter hypointensities. This report provides raw volume, percent of ICV, and normative percentiles for each structure.

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**LesionQuant™**  
FLAIR Lesion Report | COVID-19

Patient ID: COVID | Patient Name: COVID | Sex: F | Age: 58 | Referring Physician: COVID

Scan Date: 2020-05-01 | Accession Number: HSC7020067

Scan Date	Accession Number	Size	Separation	Intrafoliar	Leukocortical	Periventricular
2020-05-01	HSC7020067	4 mm <sup>3</sup>	2 mm	0.7	0.85	1.4
2020-03-25	HSC7020067	4 mm <sup>3</sup>	2 mm	0.7	0.85	1.4

**MORPHOMETRY RESULTS**

Brain Structure	Current Volume (cm <sup>3</sup> )	Current % ICV	Current Normative Percentile
Whole Brain	1135.1	77.4	29
Thalamus	11.2	0.8	1
Cortical Gray Matter	500.6	34.1	37
Cerebral White Matter	406.1	27.7	8

**LESION RESULTS (from current scan)**

	All Lesions from Current Scan	All Lesions from Prior Scan	Enlarging Lesions	New Lesions
Volume (cm <sup>3</sup> )	28.52	28.53	0.00	0.00
% ICV	3.89	3.89	0.00	0.00
Lesion Burden	7.02	6.99		

**AGE AND SEX MATCHED REFERENCE CHARTS**

**NeuroQuant®**  
Triage Brain Atrophy Report | COVID-19

Patient ID: COVID | Patient Name: COVID | Sex: M | Age: 67 | Referring Physician: COVID

Scan Date: 2012-04-26 | Accession Number: 2012-04-26

**MORPHOMETRY RESULTS**

Structure	Total Volume (cm <sup>3</sup> )	Percentile
Intracranial Volume	1545	-
Whole Brain	1124	11
Forebrain Parenchyma	966	7

**Percentiles**

Structure	Left	Right	Total
Cerebral White Matter	36	28	32
Cortical Gray Matter	10	7	8
Ventricles	94	92	93
Cerebral WM Hypointensities*	3	2	3

**Cortical Brain Regions**

Structure	Left	Right	Total
Frontal Lobes	5	2	7
Superior Frontal	2	2	4
Middle Frontal	26	7	12
Inferior Frontal	9	9	7
Lateral Orbitofrontal	1	5	1
Medial Orbitofrontal	8	2	1

**Subcortical Structures**

Structure	Left	Right	Total
Paracentral	80	72	29
Primary Motor	65	3	22
Parietal Lobes	13	22	16
Primary Sensory	21	11	13
Medial Parietal	13	14	12
Superior Parietal	45	91	77
Inferior Parietal	12	4	4
Supramarginal	41	58	47
Cerebellar Gray Matter	32	15	22
Occipital Lobes	33	56	42
Medial Occipital	63	74	20
Lateral Occipital	22	42	26
Temporal Lobes	35	16	24

**Basal Ganglia**

Structure	Left	Right	Total
Putamen	70	62	66
Caudate	32	21	26
Nucleus Accumbens	29	69	42
Pallidum	62	74	70
Chippale	2	18	4
Substantia nigra	23	47	49
SNr	24	24	23

**Brainstem**

Structure	Left	Right	Total
Transverse Temporal + Superior Temporal Sulcus	29	5	11
Posterior Superior Temporal Sulcus	63	18	30
Middle Temporal	18	22	17
Inferior Temporal	67	28	48
Fusiform	53	52	51
Parahippocampal	76	55	67
Entorhinal Cortex	44	45	43
Temporal Pole	55	62	58
Amygdala	28	36	29
Hippocampus	55	63	59

**AGE AND SEX MATCHED REFERENCE CHARTS**

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**NeuroQuant®**  
Custom Report | COVID-19

Patient ID: COVID | Patient Name: COVID | Sex: M | Age: 67 | Referring Physician: COVID

Scan Date: 2012-04-26 | Accession Number: 2012-04-26

**MORPHOMETRY RESULTS (1 of 2)**

Brain Structure	Volume (cm <sup>3</sup> )	% of ICV (5%-95% Normative Percentile)	Normative Percentile
Amygdalae	2.94	0.19 (0.17 - 0.24)	29
Anterior Middle Frontal	13.01	0.84 (0.88 - 1.27)	2
Brainstem	26.60	1.72 (1.36 - 1.76)	92

**AGE AND SEX MATCHED REFERENCE CHARTS**

**NeuroQuant®**  
Custom Report | COVID-19

Patient ID: COVID | Patient Name: COVID | Sex: M | Age: 67 | Referring Physician: COVID

Scan Date: 2012-04-26 | Accession Number: 2012-04-26

**MORPHOMETRY RESULTS (1 of 2)**

Structure	Volume (cm <sup>3</sup> )	% of ICV (5%-95% Normative Percentile)	Normative Percentile
Whole Brain	1011.11 (10.37 - 12.85)	3	
Thalamus	0.21 (0.22 - 0.39)	4	
Frontal Lobes	0.64 (0.65 - 0.91)	3	
Brainstem	1.02 (0.86 - 1.06)	79	
Whole Brain	72.69 (71.35 - 80.04)	11	

**ARTS**

Region	Volume (cm <sup>3</sup> )	% of ICV
Frontal Lobes	~0.5	~0.04
Frontal Poles	~0.1	~0.01
Thalamus	~0.2	~0.02
Whole Brain	~1000	~77

**AGE AND SEX MATCHED REFERENCE CHARTS**