

High-level review synthesis paragraph components

(Compiled, revised, and edited by HNM on 3/15/2026) with the aid of ChatGPT)

High-impact review journals such as Nature Publishing Group's Nature Reviews series and the journals of Annual Reviews tend to use a very recognizable synthesis paragraph structure. These paragraphs are designed to interpret the field, not merely summarize studies. The classic synthesis paragraph structure has several components

Topic sentence

The paragraph starts with a general conclusion or claim about the literature but does not cite a specific study to support it. It states what the body of evidence suggests.

Example: *Aerobic exercise consistently improves endothelial function in both healthy and diseased populations.*

Supporting evidence from multiple studies

Next, briefly integrate several studies that support the statement grouped conceptually.

Example: *Randomized trials in hypertensive patients demonstrate significant increases in flow-mediated dilation following structured aerobic training, while observational studies in healthy adults show similar improvements after endurance conditioning.*

Explanation or interpretation

Next, explain or interpret why these findings occur or how they relate mechanistically.

Example: *These improvements likely reflect enhanced endothelial nitric oxide bioavailability and reduced oxidative stress, both of which are known to accompany sustained aerobic activity.*

Qualifications or limitations

Next, include any cautions or nuances to the previous claims or interpretations.

Example: *However, the magnitude of improvement varies substantially across studies, likely due to differences in exercise intensity, training duration, and vascular function.*

Example full synthesis paragraph

(claim) Aerobic exercise produces consistent improvements in endothelial function across diverse populations. **(evidence)** Clinical trials in hypertensive individuals and observational studies in healthy adults both demonstrate significant increases in flow-mediated dilation following endurance training. **(interpretation)** These vascular adaptations are thought to arise from enhanced nitric oxide production and reduced oxidative stress within the endothelium.

(qualification) Nevertheless, reported effect sizes vary widely, suggesting that exercise intensity, training duration, and baseline cardiovascular risk substantially influence the magnitude of benefit.

The above paragraph integrates multiple studies, explains mechanisms, and acknowledges limitations. What is not great is the "laundry list" paragraph: Smith found that exercise improves endothelial function. Jones reported similar results in older adults. Brown also observed improved vascular function after training.

A general plan for writing a synthesis paragraph is, in short, the following.

Claim → Evidence → Mechanism → Limitation OR

Pattern → Examples → Interpretation → Qualification

To sum up: A synthesis paragraph starts with what the literature collectively shows, then briefly supports and interprets that conclusion.