2.6 (string replacement) Let $S$ and $T$ be strings. Let $n$ and $m$ be such that $$n, m: 0...\leftrightarrow S+1 \land n \leq m$$

Design a notation and axiom for a string expression that means a string like $S$ except that the substring of $S$ from index $n$ to index $m$ is replaced by string $T$. If $n=m$ then it's insertion of $T$ at index $n$. If $T=nil$ then it's deletion of the substring from $n$ to $m$. If $n=m=\leftrightarrow S$ then it's appending $T$ to the end of $S$. If $n=m=0$ then it's prepending $T$ to the front of $S$.

§ This is a generalization of $S<n+i$, so I'll use the notation $S<nlm>T$, although I don't like reusing $|$ for another purpose. The axiom could be $$\leftrightarrow S<\infty \Rightarrow (S;T;U \leftrightarrow S \leftrightarrow S + \leftrightarrow T = V) = S;V;U$$

or it could be

$$S<nlm>T = S_{0;..n};T;S_{m;..\leftrightarrow S}$$