CLAIMS

The invention is claimed as follows:

1. A vascular monitoring system comprising:

a collar configured to be positioned about a patient's vessel; and

a transducer coupled to the collar, the transducer configured to emit an ultrasonic signal that is transmitted through the patient's vessel.

2. The monitoring system of claim 1, wherein the collar includes at least one eyelet that is adapted to be sutured to adjacent tissue to fixedly position the collar about the patient's vessel.

3. The monitoring system of any of claims 1 or 2, wherein the collar includes a probe holder sized and shaped to receive the transducer.

4. The monitoring system of claim 3, wherein the transducer is coupled to the collar through a friction fit with the probe holder.

5. The monitoring system of any of claims 1 to 4, wherein the collar is made of at least one of implant grade liquid-silicon rubber (LSR) and high-consistency silicone rubber (HCR) with a durometer between 40 and 80.

6. The monitoring system of any of claims 1 to 5, wherein the collar is configured to be positioned about an anastomosis site of the patient's vessel.

7. The monitoring system of any of claims 1 to 5, wherein the collar is configured to be positioned at a location that is one of upstream of an anastomosis site of the patient's vessel and downstream of the anastomosis site of the patient's vessel.

8. The monitoring system of any of claims 1 to 7, wherein the transducer is removably coupled to the collar.

9. A vascular monitoring system comprising:

a collar configured to be positioned about a patient's vessel, the collar configured to transition from an open configuration to a closed configuration; and

a transducer coupled to the collar, the transducer configured to emit an ultrasonic signal that is transmitted through the patient's vessel.

10. The system of claim 9, wherein the collar includes at least one closure structure configured to maintain the collar in the closed configuration.

11. The system of claim 10, wherein the at least one closure structure includes a first eyelet and a second eyelet.

12. The system of any of claims 10 and 11, wherein the at least one closure structure is adapted to be sutured to adjacent tissue to fixedly position the collar about the patient's vessel.

13. The monitoring system of any of claims 9 to 12, wherein the collar includes a probe holder sized and shaped to receive the transducer.

14. The monitoring system of claim 13, wherein the transducer is coupled to the collar through a friction fit with the probe holder.

15. The monitoring system of any of claims 9 to 14, wherein the collar is made of at least one of implant grade liquid-silicon rubber (LSR) and high-consistency silicone rubber (HCR) with a durometer between 40 and 80.

16. The monitoring system of any of claims 9 to 15, wherein the collar is configured to be positioned about an anastomosis site of the patient's vessel.

17. The monitoring system of any of claims 9 to 15, wherein the collar is configured to be positioned at a location that is one of upstream of an anastomosis site of the patient's vessel and downstream of the anastomosis site of the patient's vessel.

18. The monitoring system of any of claims 9 to 17, wherein the transducer is removably coupled to the collar.

19. A vascular monitoring system comprising:

a strap configured to transition from an open configuration to a closed configuration, the strap forming a collar when placed in the closed configuration, the collar configured to be positioned about a patient's vessel; and

a transducer coupled to the collar, the transducer configured to emit an ultrasonic signal that is transmitted through the patient's vessel.

20. The monitoring system of claim 19, wherein the strap includes at least one closure structure configured to maintain the strap in the closed configuration.

21. The system of claim 20, wherein the at least one closure structure includes a clamp, clasp, and band.

22. The system of claim 20, wherein the at least one closure structure includes a prong and a sizing hole.

23. The monitoring system of any of claims 19 to 22, wherein the strap includes a probe holder sized and shaped to receive the transducer.

24. The monitoring system of claim 23, wherein the transducer is coupled to the strap through a friction fit with the probe holder.

25. The monitoring system of any of claims 19 to 24, wherein the strap is made of at least one of implant grade liquid-silicon rubber (LSR), high-consistency silicone rubber (HCR), HDPE, Nusil 4750, Nusil 4840, and a thermoplastic.