WHAT IS CLAIMED IS:

1. A prosthetic valve comprising:

a plurality of prosthetic valve leaflets;

an expandable valve frame for supporting the plurality of prosthetic valve leaflets;

a plurality of elongate anchor arms extending from an outlet end portion of the valve frame, each elongate anchor arm having a first end portion coupled to the valve frame, each elongate anchor arm extending distally in an undeployed configuration and adapted to extend proximally in a deployed configuration; and

anchoring protrusions positioned along a surface of at least one of the elongate anchor arms such that the anchoring protrusions face in a radially inward direction when the respective elongate anchor arm is in the undeployed configuration and face in a radially outward direction when the respective elongate anchor arm is in the deployed configuration, wherein the anchoring protrusions are positioned to engage tissue of a native heart valve.

2. The prosthetic valve of claim 1, wherein the anchoring protrusions comprise barbs.

3. The prosthetic valve of claim 1, wherein each elongate anchor arm is substantially straight in the undeployed configuration and is bent in the deployed configuration.

4. The prosthetic valve of claim 1, wherein each elongate anchor arm has a hook shape in the deployed configuration.

5. The prosthetic valve of claim 1, wherein each elongate anchor arm has a second end portion, and the second end portions of the plurality of elongate anchor arms form a ring around the valve frame in the deployed configuration, wherein the ring has a diameter larger than a diameter of the valve frame such that an annular gap is provided between the second end portions of the elongate anchor arms and the valve frame.

6. The prosthetic valve of claim 1, wherein each of the elongate anchor arms is independent from the other elongate anchor arms.

7. The prosthetic valve of claim 1, wherein a flexible sealing skirt extends over the plurality of elongate anchor arms for providing a seal and preventing regurgitation.

8. The prosthetic valve of claim 1, wherein the plurality of elongate anchor arms comprises a first plurality of elongate anchor arms, and the prosthetic valve further comprises a second plurality of elongate anchor arms each for hooking over a distal tip of a leaflet of the native heart valve.

9. The prosthetic valve of claim 1, wherein the prosthetic valve is adapted to be anchored to the native heart valve by only the anchoring protrusions.

10. The prosthetic valve of claim 1, wherein the at least one of the elongate anchor arms includes at least four of the anchoring protrusions.

11. The prosthetic valve of claim 1, wherein the valve frame is self-expanding.

12. The prosthetic valve of claim 1, wherein the valve frame is cylindrical.

13. The prosthetic valve of claim 1, wherein the prosthetic valve is for replacing a mitral valve or a tricuspid valve.

14. A system for implantation of a prosthetic valve to a native heart valve, the system comprising:

a prosthetic valve including:

a plurality of prosthetic valve leaflets,

an expandable valve frame for supporting the plurality of prosthetic valve leaflets,

a plurality of elongate anchor arms extending from an outlet end portion of the valve frame, each elongate anchor arm having a first end portion coupled to the valve frame, each elongate anchor arm extending distally in an undeployed configuration and adapted to extend proximally in a deployed configuration, and

anchoring protrusions positioned along a surface of at least one of the elongate anchor arms such that the anchoring protrusions face in a radially inward direction when the respective elongate anchor arm is in the undeployed configuration and face in a radially outward direction when the respective elongate anchor arm is in the deployed configuration,

wherein the anchoring protrusions are positioned to engage tissue of the native heart valve; and

a delivery apparatus for delivering the prosthetic valve to the native heart valve, the delivery apparatus including an elongate shaft having a capsule for retaining the prosthetic valve in the undeployed configuration within an implant retention area of the delivery apparatus, the capsule adapted to retract relative to the prosthetic valve to allow the plurality of elongate anchor arms to move from the undeployed configuration to the deployed configuration.

15. The system of claim 14, wherein each elongate anchor arm is substantially straight in the undeployed configuration and is bent in the deployed configuration.

16. The system of claim 14, wherein each elongate anchor arm has a bend portion and is adapted to rotate about the bend portion to move from the undeployed configuration to the deployed configuration.

17. A prosthetic valve comprising:

a plurality of prosthetic valve leaflets;

an expandable valve frame for supporting the plurality of prosthetic valve leaflets;

a plurality of elongate anchor arms, each elongate anchor arm having a first end portion coupled to the valve frame and a second end portion positioned radially outwardly from the valve frame in a deployed configuration, each elongate anchor arm extending distally in an undeployed configuration and adapted to rotate to extend proximally in the deployed configuration; and

anchoring protrusions positioned along a surface of at least one of the elongate anchor arms such that the anchoring protrusions face in a radially inward direction when the respective elongate anchor arm is in the undeployed configuration and face in a radially outward direction when the respective elongate anchor arm is in the deployed configuration, wherein the anchoring protrusions are positioned to engage tissue of a native heart valve.

18. The prosthetic valve of claim 17, wherein each elongate anchor arm has a bend portion and is adapted to rotate about the bend portion to move from the undeployed configuration to the deployed configuration.

19. The prosthetic valve of claim 18, wherein the bend portion has a convex shape directed distally in the deployed configuration.

20. The prosthetic valve of claim 19, wherein each of the plurality of elongate anchor arms are circumferentially spaced from each other.